The Journal of the
International College of Surgeons

COLLEGE INTERNATIONAL DE CHIRURGIENS

FIFTH INTERNATIONAL ASSEMBLY

Lima, Peru (Date to Be Announced)

Prof. Dr. Francisco Graña, General Chairman

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and
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NOTICE

MEETING OF HOUSE OF DELEGATES

The meeting of the House of Delegates of the International Board of Trustees of the International College of Surgeons will be held on the following days at the Hospital Obrero, Lima, Peru:

Opening session· Sunday, March 24, 1946, at noon.

Final session. Wednesday, March 27, 1946, A M (hour to be announced). (See Bulletin Board at Obrero Hospital)

Delegates who cannot be present in person are permitted, according to Article 1, Section 6 of the Constitution and By-Laws of the International College of Surgeons, to vote by proxy A delegate so choosing to vote "shall give his proxy in writing to any other member who is entitled to vote and who attends the meeting. The proxy shall be properly signed and shall be filed with the Secretary General at the meeting. No such proxy shall be recognized unless executed within sixty days of the date of the meeting at which it is presented."

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Original Articles

Floss Silk Lattice Repair for Direct Inguinal Hernia

RODNEY MAINGOT, F R C S (Eng), F I C S
LONDON ENGLAND

DURING the last six years the floss silk posterior lattice repair operation, which is based on the darn and staylace procedure of Sampson Handley[3] (1918), has been employed exclusively, with excellent results, by the writer and his assistants at an E M S hospital for all cases of direct inguinal hernia It has also been adopted for large oblique herniae in which the internal ring and the floor of the inguinal canal have been unduly stretched or where the muscular and fascial supports appear weakened and atrophied, and also for certain types of recurrent inguinal hernia

The immediate and late results of this operation in a series of over five hundred cases have been so gratifying that we now no longer make use of Gallie's[1] fascial repair (1921), McArthur's[4] operation (1904), the slide operation so warmly advocated by Tanner[8] (1942), or the Halsted[2] rectus flap method (1893), when dealing with the varieties of rupture under consideration

OPERATIVE TECHNIC

The inguinal regions and the upper third of the thighs are carefully shaved and cleansed with soap and water a few hours before the operation is due to start No antiseptic solution is applied to the operation site while the patient is in the ward

For the average patient a spinal anesthetic is found to be efficient, but for the aged and for the poor risk case cyclopropane is the anesthetic of choice and is, in our opinion, far better than a field block We employ local anesthesia only for those cases of strangulated hernia in which the operative risk is very great

The patient is placed on his back on the operating table, which is slanted in a slightly anti Trendelenburg position, after which a sandbag is placed beneath the buttocks to throw the inguinal regions forward, and the knees are flexed by placing them on a small hard round pillow to relax the abdominal muscles

The inguinal regions, the genitals, the upper third of both thighs, the whole abdomen and the flanks are then lavishly painted with tincture of iodine before applying the mackintosh sheets and the abdominal and limb drapes When this is done, the small exposed quadrilateral area of skin in the inguinal region is again freely painted with tincture of iodine

A transverse crease incision is used, starting one finger breadth below and medial to the anterior superior iliac spine, crossing the inguinal ligament at the junction of the middle and outer third and finishing one finger breadth above the pubis and half an inch short of the midline This incision has many advantages over the usual oblique one, which is placed half an inch or so above and parallel to the inguinal ligament The cosmetic result of the crease incision is better, as the fine scar lies in one of the natural flexion creases of

The upper leaf of the aponeurosis is then reflected off the underlying structures with sweeping strokes of the finger or with the handle of the knife, freely displaying the arching muscular fibres of the internal oblique, the cremaster muscle, the ilio hypogastric nerve, the shiny outer border of the rectus sheath, and the lateral aspect of the pubic crest to which the rectus muscle itself is attached.

The lower leaf is cleared until the inner surface of the inguinal ligament is visible as far as its point of insertion into the pubic spine. As the cremaster muscle is being liberated from the lower leaf, great care must be taken not to crush or otherwise injure the ilio inguinal nerve which lies partly on the surface of this muscle and along a line which runs roughly parallel with the inguinal ligament.

A fold of cremaster muscle immediately below the ilio inguinal nerve is picked up with two dissecting forceps and divided with scissors in a longitudinal direction, thus exposing the subcremasteric areolar space. The closed points of the scissors are pushed up and down in this space to clear the cord until it is quite free and the muscle is then divided in the line of its fibers, upwards and outwards to within one third of an inch of the arching fibers of the internal oblique muscle and downwards through the external ring. In dividing the muscle in an upward direction a small arterial twig of the deep epigastric artery is invariably cut across and should be instantly caught and ligated, while in cutting the cremaster muscle in the opposite direction care must be taken to preserve the ilio inguinal nerve where it dips towards the neck of the scrotum.

The upper and lower leaves of the cremaster muscle are grasped with Allis forceps and held apart to aid in the isolation of the cord. The upper leaf should be dissected first, after which the lower leaf is freed and any muscle fibers which cling to the cord are gently pushed aside by gauze dissection so that this structure can be picked up between the thumb and index finger of the left hand and be drawn upwards and outwards from its bed. The loose attachments of the cord posteriorly are quickly freed so that all the constituents of the cord from the external to the internal ring can be readily examined through its diaphenous covering of infundibuliform fascia.

If a *small congenital oblique sac* is present, it will readily be seen overriding the cord. In such a case the infundibuliform fascia should be incised, the sac isolated from the vas and vessels down to and slightly beyond the neck of the sac, and after opening the fundus and replacing any contents into the peritoneal cavity, the neck of the sac should be clearly displayed, transfixed and ligated with No. 3 silk. The ligature should be cut short and the sac divided about a third to half an inch beyond it. The stump immediately recedes and disappears from view behind the opening in the transversalis fascia.

The internal ring is examined with the finger, and if the ring is *unstretched* and the floor of the canal is staunch and unyielding, the cord is dropped back into its bed and the various layers —the cremaster, the external oblique aponeurosis, the deep fascia and the subcutaneous tissues and skin — are closed in sequence, using a series of closely applied sutures of fine silk.

In those instances in which the internal ring is evidently *stretched* by a moderately large indirect sac but in which the fibro muscular sphincteric mechanism is adequate, it is sufficient to narrow the ring to accommodate the

the body; keloid formation is almost unknown: it crosses the deep plastic repair at only one point, thus minimizing the risk of infection from the surface to the vulnerable muscular planes underneath; and the exposure obtained during the dissection is, with good retraction, more than ample.

The crease incision is made cautiously through the skin down to the subcutaneous tissues in which the superficial femoral vessels may be seen coursing upwards, inwards and outwards. The knife, which must be considered as contaminated after making this incision, is discarded and a fresh one picked up for continuing the dissection. The superficial femoral blood vessels are identified and isolated from the fatty tissues before they are clipped with Halsted or Dunhill forceps and divided. All small bleeding points are likewise seized with fine-pointed artery forceps and each is tied off with No. 0 twisted silk, the ligatures being cut as close to the knot as possible.

When complete hemostasis is assured, the edges of the wound are once again painted with tincture of iodine and four tetra-cloths are affixed to the wound margins with Scott Ridout forceps. All the instruments which have been used in making the incision are now removed and a fresh set is employed for the remainder of the operation until the skin margins are ready for suturing, when once again another set of instruments is employed. Three sets of freshly sterilized instruments are thus used during the three most important stages of the operation—the making of the incision, the dissection and the repair of the hernia, and the closure of the wound.

The deep fascia overlying the external oblique aponeurosis is divided in line with the incision, and the fatty areolar tissues clinging to the aponeurosis are reflected with the handle of the knife upwards and outwards to one inch beyond the internal abdominal ring and downwards as far as the inguinal ligament but not beyond it. Dissection with the knife should not be carried down to the external ring itself as numerous penetrating blood vessels pierce the intercolumnar fascia here and are difficult to clip with hemostats after they have been divided. Hemorrhage here must be avoided at all costs, as it is difficult to detect and to control, and if unobserved it may subsequently give rise to a troublesome hematoma, which may suppurate or at best take weeks to absorb. When, therefore, the dissection approaches the external abdominal ring, the knife should be laid aside and a gauze swab be wrapped around the right index finger which is then used to push aside the structures here in order to display the pillars of the ring and the emerging cord.

A small cut is next made with a knife in the aponeurosis of the external oblique in the line of the pillars and approximately one inch from the point where they diverge. The upper and lower leaves are steadied and elevated with artery forceps to allow a finger to be inserted beneath the aponeurosis and the underlying internal oblique and cremaster muscles. This finger gently detaches any structures which may be adherent to the under-surface of the aponeurosis, such as the ilio-inguinal and ilio-hypogastric nerves and the fibres of the cremaster muscle.

The incision in the aponeurosis can now be safely extended upwards and outwards to a point one inch above the internal abdominal ring and downwards and inwards through the external ring and the arching fibres of the attenuated intercolumnar fascia.

The upper leaf of the aponeurosis is then reflected off the underlying structures with sweeping strokes of the finger or with the handle of the knife, freely displaying the arching muscular fibres of the internal oblique, the cremaster muscle, the ilio hypogastric nerve, the shiny outer border of the rectus sheath, and the lateral aspect of the pubic crest to which the rectus muscle itself is attached.

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In those instances in which the internal ring is evidently *stretched* by a moderately large indirect sac but in which the fibro muscular sphincteric mechanism is adequate, it is sufficient to narrow the ring to accommodate the cord snugly by stitching the adjacent crescentic margin of the transversalis fascia to the inguinal ligament with a few interrupted sutures before completing the reconstruction procedure which has just been described (Ogilvie,[7] 1936).

If, on the other hand, after removing the sac of an oblique hernia the internal ring is found to be *widely dilated* and the posterior floor of the canal partially or wholly deficient, in fact so weak and yielding as to constitute a direct rupture, it is wiser to repair the canal throughout its entire length with a floss silk darn, transplanting the cord subcutaneously, than to rely upon a strict anatomic reconstruction.

In many such cases it is indeed tempting to dissect out the transversalis fascia and to affix this membrane to the inguinal ligament or to Cooper's ligament with sutures, as has been suggested by McVay[5] (1942), in hopes that this attenuated fascial curtain will form an efficient barrier against subsequent herniation. In practice, however, this plan, even when the transversalis fascia has been reinforced with fascial strips taken from the thigh or from the external oblique aponeurosis, has not proved entirely reliable in my hands and has in consequence been more or less abandoned.

When a *large indirect hernia is associated with a direct hernia* or with a so-called diverticulum of the transversalis fascia, after opening the oblique sac the index finger can be introduced into the peritoneal cavity to explore the defect in the floor of the inguinal canal from behind, after which all the redundant peritoneum can be readily gathered lateral to the deep epigastric artery and cut away after closing the neck of the

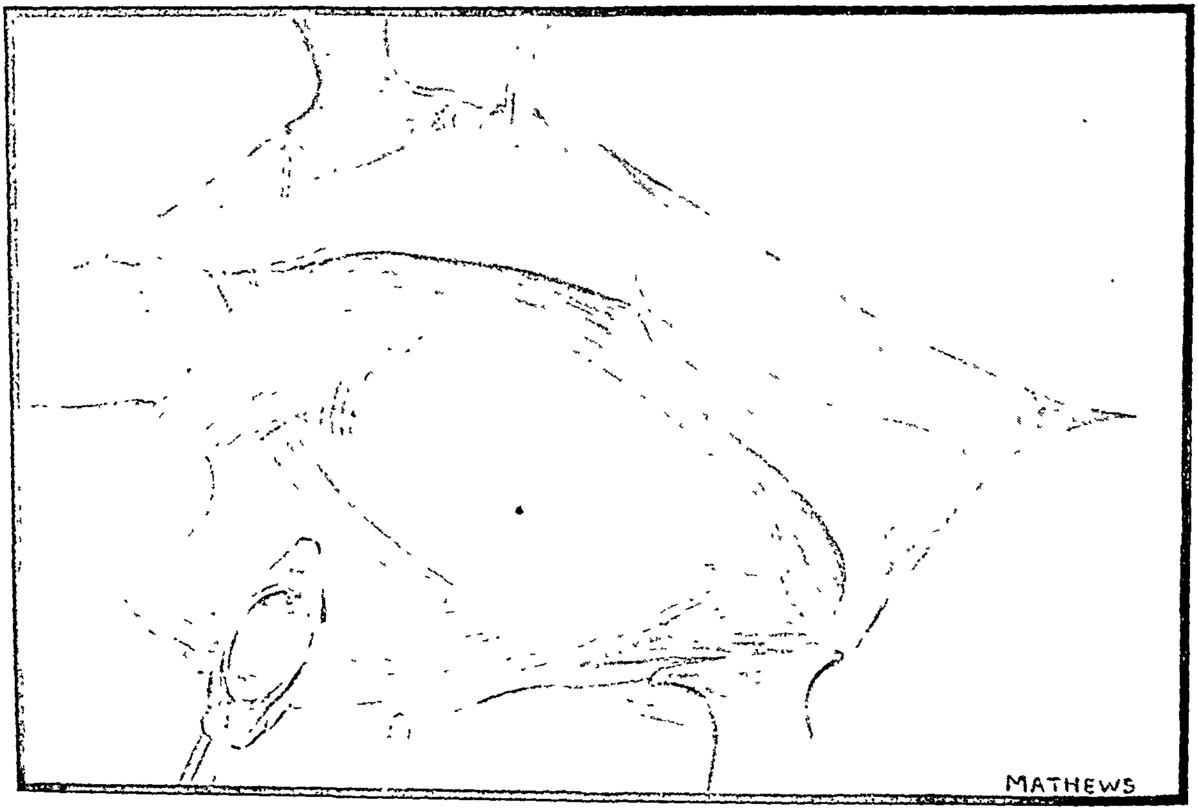

Fig. 1. Operation for Direct Inguinal Hernia. The exposure.

sac from within with a purse-string suture of strong silk.

Again, in the common type of *direct inguinal hernia* (Fig. 1) there is much to be gained by incising the small tongue of peritoneum which clings to the medial border of the cord at the internal ring and testing by touch the integrity of the posterior wall of the canal from behind. The cut margin of the peritoneal sac is clipped with a number of hemostats, and by a combination of gauze dissection and traction the loose membrane can be easily drawn forwards between the issuing cord and the deep epigastric artery and the excess excised after suturing the aperture in a watertight fashion. (Figs. 2, 3 and 4.)

The cut margins of the cremaster muscle are now approximated behind the cord to facilitate the introduction of the floss silk suture (Fig. 5) to fortify, however feebly, the posterior floor, and also to reduce the caliber of the cord which is subsequently made to lie subcutaneously.

The operative field is now ready for the introduction of the floss silk lattice. Floss silk is to be preferred to catgut or other nonabsorbable suture material because it readily becomes incorporated into the tissues in which it is buried, its numerous gossamerlike fibrils lying loosely together form an excellent scaffolding for the unhindered invasion and infiltration of fibroblasts, and it produces in a very short time a fibromuscular sheet which is strong enough to withstand the greatest strain. In addition to this, it is cheap, readily available, easy to sterilize, and simple to insert when threaded on small or medium-sized round-bodied, trocar-pointed Mayo needles. Floss silk is

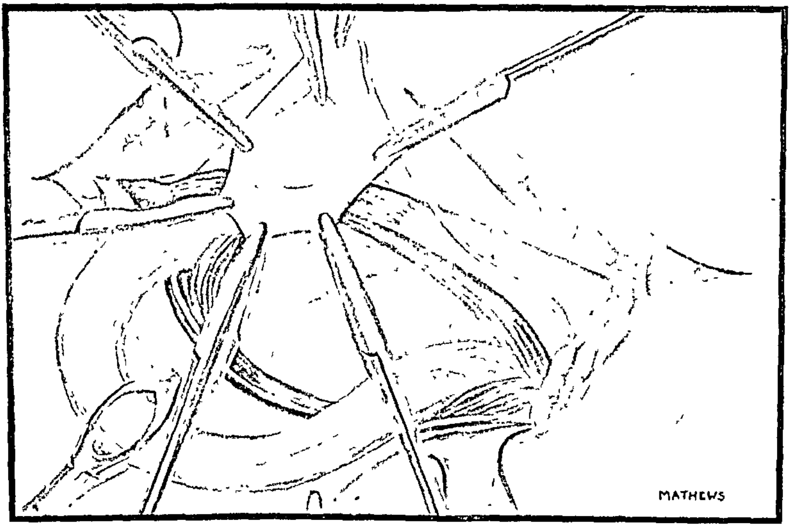

Fig 2 The opening of the peritoneum lateral to the deep epigastric artery.

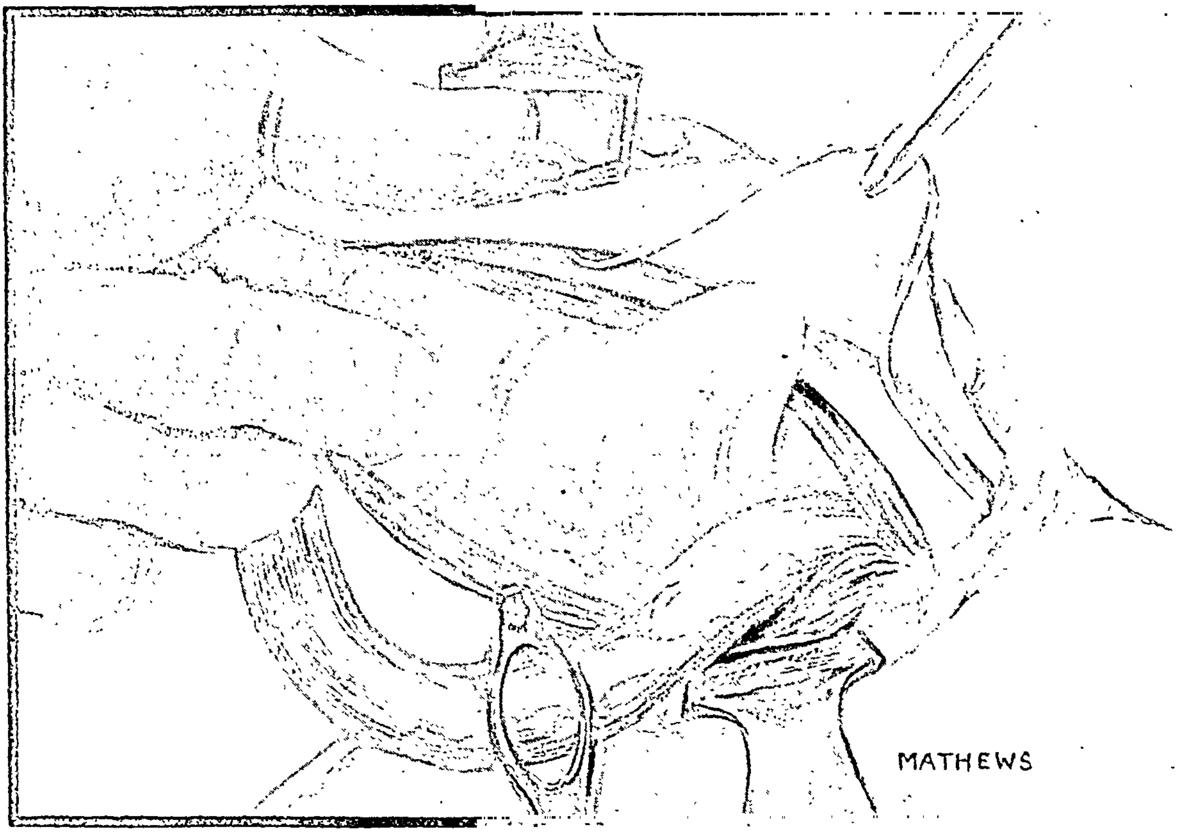

Fig. 3. Testing the posterior floor of the inguinal canal with a finger introduced into the peritoneal cavity.

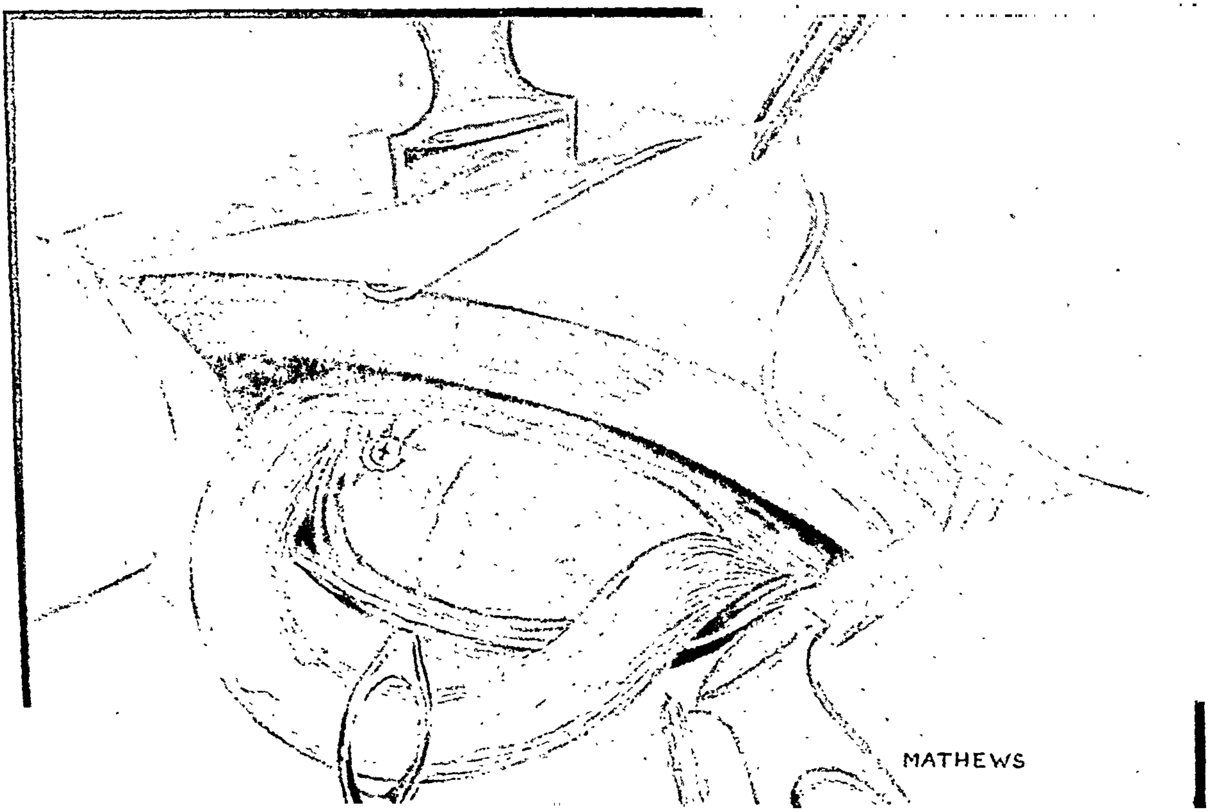

Fig. 4. Closure of the aperture in the peritoneum.

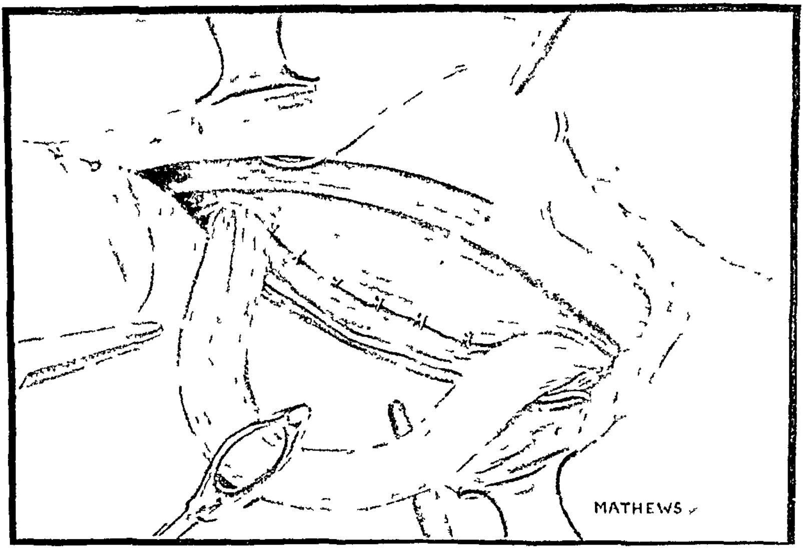

Fig 5 Closure of the cremaster muscle

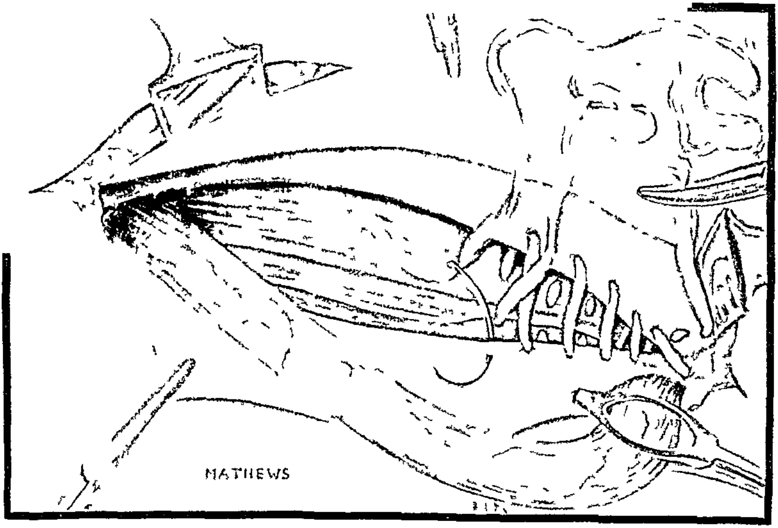

Fig 6 The darning of the posterior floor of the inguinal canal with floss silk, the first row of sutures

again preferable to fascia lata strips because it does not add another operation to the hernial repair and the fibrous tissue response following the introduction of this suture material is just as great as when living autogenous sutures are employed.

Floss silk is supplied in ampoules (Messrs. John Bell and Croyden) ready for use, or on spools. The ampoule (containing a small spool of about one yard of floss silk) is immersed in dettol and spirit for about half an hour before the operation is due to commence. After the silk has been removed from the glass container it is thoroughly rinsed in sterile saline solution and then in doubly distilled water in order to remove all traces of chemicals which may be irritating or injurious to the tissues.

It is now my custom to take a 24-inch strand of floss silk from a spool and to boil it for one hour before use. The floss silk should not be immersed in weak mercurial lotions, flavine solution, sulphonamide pastes, liquid paraffin and the like, as these substances are tissue irritants and excite an outpouring of serum—one of the greatest dangers to a promising herniorrhaphy.

The floss silk is introduced in the following manner. The first stitch takes a firm bite of the periosteum of the pubic crest and then another bite at the origin of the tendon of the rectus muscle. The end of the suture is not knotted at this stage but caught with artery forceps. The cord is held out of the way while the suture is continued in a lateral direction, taking first a bite in the periosteum over the pubic spine, then of the edge of the rectus sheath, then of the inguinal ligament, then of the conjoined tendon, then of the in-

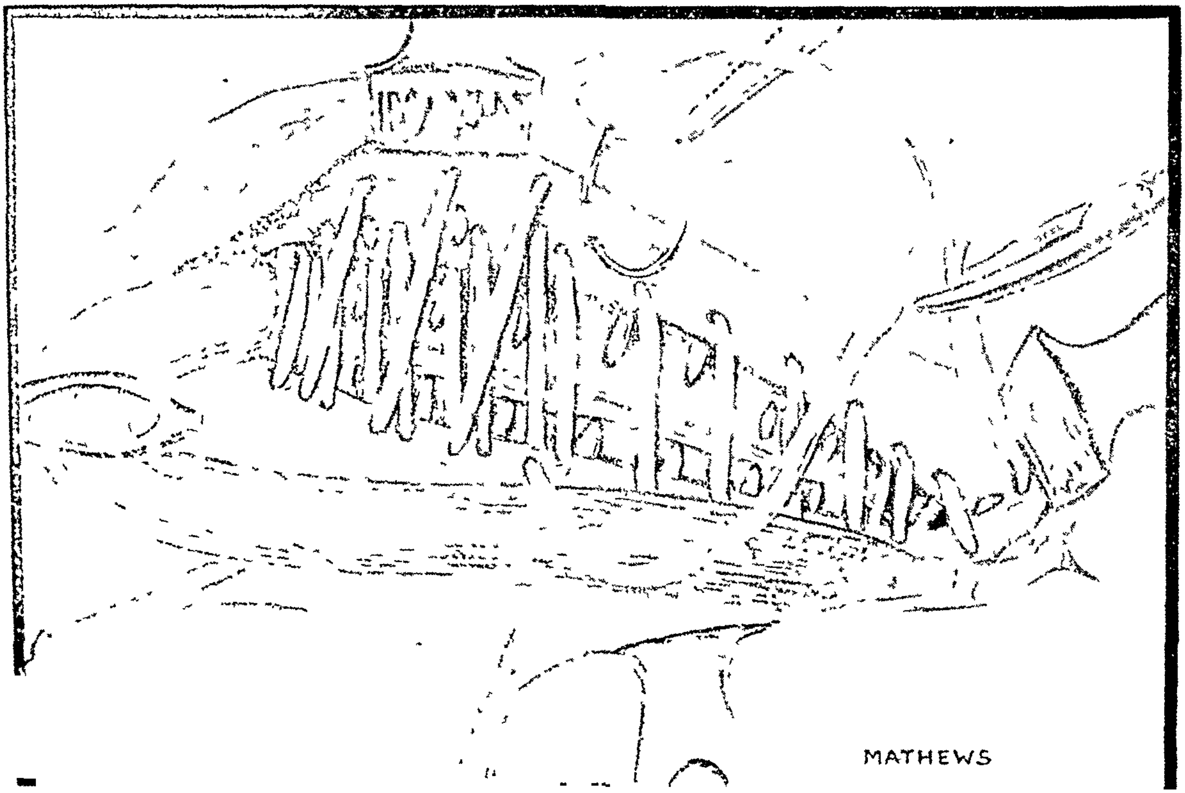

Fig 7 The second row of sutures continued medially.

guinal ligament, then of the conjoined tendon, then of each side of the cremaster, then of the inguinal ligament, and then back again to the conjoined tendon, and so on. The stitches are inserted almost vertically and close to one another without any strain or pull on the muscle or the inguinal ligament (Fig. 6).

As the internal ring is approached, the cord is pulled firmly outwards and the suture is continued until it can be felt that an opening only the size of the tip of the little finger remains. At one time we were in the habit of reinforcing the internal ring by buttressing the cord on all sides with floss silk sutures in the manner employed by Gallie in his fascial repair operation; but now we omit this step, preferring to place the emerging cord between the soft yielding muscles laterally and the silk wall that is built up on its medial aspect.

The suture is next continued back towards the starting point, but this time with much wider traverse, taking on one side a bite of the inguinal ligament between the stitches of the previous row, then on the other side the fibromuscular conjoined tendon. The stitches are once again inserted without the slightest degree of tension and are passed in such a manner that the whole of the posterior floor of the inguinal canal is effectively darned with a lattice of floss silk (Fig. 7).

The stitch is completed by taking a good bite of the periosteum over the pubic spine and the crest of the pubis and by tying the ends of the silk sutures together so that the knot will lie beneath the aponeurosis of the external oblique close to the pubic crest.

With the cord elevated, the edges of the external oblique aponeurosis are approximated with a series of inter-

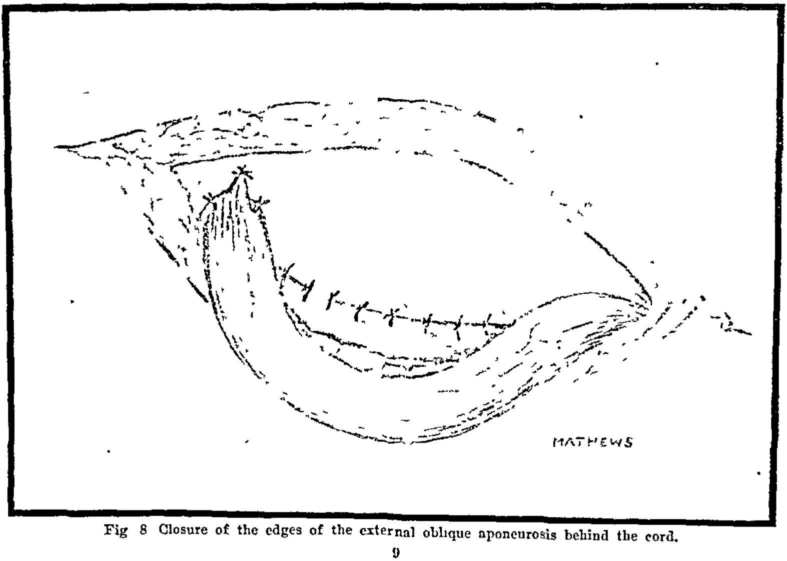

Fig 8 Closure of the edges of the external oblique aponeurosis behind the cord.

rupted sutures (Fig. 8), or if the aponeurosis has been much stretched the edges may be overlapped. The cord is finally laid back on its new bed before the deep fascia and the subcutaneous tissues are drawn together with interrupted stitches of fine silk. The skin edges are sutured with vertical mattress sutures of fine black silk or deknatel.

The wound is finally painted with tincture of iodine and a small gauze dressing applied, this being kept in place by a broad strip of elastoplast.

POSTOPERATIVE TREATMENT

The patient is kept lying flat in bed, the head being supported with one or two pillows. Omnopon gr. 1/3 is given as required to relieve pain, a fluid diet is enforced until the bowels work, which is usually on the third or fourth postoperative day, and the routine "shake-up" treatment is carefully followed as a precaution against atelectasis.

Exercises directed towards strengthening the muscles in the inguinal region are not carried out, as it is important to avoid the formation of serum in the wound or any strain on the suture line during the process of healing.

The skin sutures are removed on the fourth or fifth day and the wound redressed with gauze, which is kept in place with an elastoplast dressing for about ten days.

The patient is allowed to get out of bed on the twentieth day after operation, and on discharge is told to avoid active work and strenuous exercise for at least two months.

There are only two complications to be feared in herniorrhaphy. The first is atelectasis and the second sepsis. We have found the "shake-up" treatment, *i.e.*, deep breathing exercises, making the patient cough at stated intervals, etc., to be of the greatest help. Infection of the wound and stitch sinus are of course due to faulty technic and not to the silk material which is used; but any surgeon who uses silk routinely in clean cases will occasionally meet with a case of sepsis. The sepsis may be superficial, in which case no harm results; or it may arise from the deep sutures, in which case after trying fomentations for two weeks or so, if the condition does not respond or resolve, it is better to open up the wound, to remove all the silk sutures and to complete the repair with fine sutures of No. 0 twenty-day chromic catgut, leaving the wound partly open.

In our last one hundred consecutive cases there has been sepsis in two cases, but on removing the offending ligatures, the wounds have healed up satisfactorily and apparently quite strongly.

There is no operation that can be compared to this floss silk lattice method for large herniae or recurrent herniae in enfeebled subjects. The all-around recurrence rate following this method is not higher than 3 per cent and this includes cases in which the operation has been performed in obese patients, in the aged and in patients who have had two or three, or even sometimes four, previous herniorrhaphies. Sepsis most frequently occurs in obese patients. We make a point now of operating on only one side at a time in cases of bilateral hernia, and we avoid supplementary operations, such as those for varicocele and hydrocele, when operating on a hernia.

SUMMARY

1. A detailed account of the technic of the operation of floss silk lattice repair in direct inguinal hernia is given.

2. While this operation is most fre-

quently employed by us in direct inguinal hernia, we also use it for those cases of oblique inguinal hernia in which the internal ring is unduly stretched and the floor of the canal is considerably weakened

3 It is in our opinion the operation of choice for cases of recurrent inguinal hernia

4 Septic complications in the wound occur in about 2–3 per cent of the cases, this being due to faulty technic If a surgeon gets a high incidence of sepsis by using this suture material, it would be advisable for him to resort to other types of operation or of suture material and at the same time to revise the details of his technic

5 The results in a consecutive series of over five hundred cases have been so uniformly satisfactory that we do not hesitate to employ this method for all the difficult and complicated types of inguinal hernia

RÉSUMÉ

1 L'auteur nous donne en detail la technique de l'operation pour la cure de hernie inguinale directe, a l'aide de la bourre de soie (floche, filocelle)

2 Quoique cette operation est le plus fréquemment employee pour les hernies inguinales directes, elle est aussi employee dans les cas de hernies inguinales obliques dans lesquels l'orifice interne est demesurement dilate et le plancher du canal inguinal tres affaiblie

3 Nous sommes d'avis que cette operation est l'operation de choix dans les cas d'hernies inguinales recidivantes

4 Les infections de la plaie surviennent dans deux tiers des cas Cela est due a une technique fautive Si un operateur a une haute incidence d'infection avec cette methode, il doit l'abandonner ou perfectionner sa technique

5 Les resultats obtenus dans cinq cents cas consécutifs furent uniformement satisfaisants L'auteur preconise l'emploi de cette methode dans toutes les hernies inguinales d'un type difficile et compliqué

SUMARIO

1 El autor da cuenta detallada de la tecnica de la operacion de hernia directa inguinal, por medio de la sutura de seda floja enrejada

2 Aun cuando esta operación es empleada con mas frecuencia por el autor en la hernia directa inguinal tambien la práctica en casos de la hernia oblicua inguinal, cuando el anillo interno es muy abierto y el piso del canal esta muy debil

3 En nuestra opinion esta es la operacion de seleccion en casos de hernia inguinal recurrente

4 Complicaciones sépticas de la herida ocurren en 2–3 por ciento de los casos, debido a errores de tecnica Si un cirujano en su experiencia obtiene alta incidencia de infección con el uso de este material de suturas, se recomienda que escoja otro metodo de operacion o de material de sutura y al mismo tiempo revisar, en detalle, su tecnica

5 Los resultados uniformemente obtenidos por el autor en mas de 500 casos consecutivos de hernia, justifican sin duda el empleo de este metodo en todos los casos dificiles y en complicados tipos de hernia

Выводы

1 Дано детальное описание оперативной техники починки прямой паховой грыжи при помощи сетки сплетенной из шелковаго сырца

2 Хотя эта операция употребляется нами, большей частью при прямой грыже, мы ее применяем также в тех случаях косвенной паховой грыжи, в кото

рых внутреннее кольцо канала очень растянуто и пол канала очень ослаблен.

3. По нашему мнению это предпочтительная операция в случаях повторной паховой грыжи.

4. В 2—3% оказались гнойные осложнения причиненные плохой оперативной техникой. Если хирург часто встречается с гнойным осложнением при употреблении этого шовного материала, то советуется ему прибегнуть к другому типу операции или шовного материала, а также проверить во всех деталях его собственную оперативную технику.

5. Результаты, полученные в 500 последовательных случаях, были настолько удовлетворительны, что мы не колеблемся применять этот способ во всех трудных и осложненных случаях паховой грыжи.

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Dr. Harvey Cushing (1869-1939)

ON THE OCCASION OF THE FIFTH ANNIVERSARY OF HIS DEATH ON OCTOBER 7, 1944

SOLOMON R. KAGAN, M.D.

DR. HARVEY CUSHING was a pioneer in experimental physiology, pathology and surgery, particularly in the field of the pituitary body and its disorders. He also was a prominent medical educator, a leading American medical bibliophile, a distinguished medical biographer and historian, a prolific and gifted writer. His monumental work, *The Life of Sir William Osler* (1925) is one of the best medical biographies. His high medical achievements placed him in the forerank of American physicians.

Six letters written by Dr. Cushing to Col. Fielding H. Garrison of Washington, D. C., are herein reproduced for the first time. I selected them from Dr. F. H. Garrison's unpublished "Volumes of Letters," which were turned over to me by Mrs. F. H. Garrison. Dr. Cushing gave me the permission to publish them. These letters have an historical interest and reflect the personality of this great brain-surgeon and man.

I

Boston, Massachusetts
April 7th, 1913

Dear Garrison:

Some six years ago Dr. Billings came to Baltimore with the plans of the future Brigham Hospital, and I judge that even then I may have been in their minds as the possible encumbent of the surgical post, for Dr. Welch, who entertained Dr. Billings, asked me to come, at Dr. Billings' request, and look over the plans.

They were at the time, and as the hospital has gone up are still, of the old type of pavillion system —for which I have very little sympathy. Dr. Billings doubtless had the Hopkins in mind when he prepared them.

The original plans were of course continually worked over for the succeeding years, by the architects here in Boston and under the supervision of Dr. Howard, the present superintendent, who was appointed some years ago.

When it came to putting these plans over for contractors' bids the sum ran up to such an inordinate amount that Christian and I, who had in the interim been appointed the medical and surgical encumbents, insisted that the buildings, architecturally speaking, should be cut down so that we should have a little money left for running expenses. As they now stand I believe they were put up for about half the original estimate, and consequently look rather factory-like.

All this does not sound very complimentary to Dr. Billings, but the great compliment is that he was asked by the trustees to formulate the original plans, inasmuch he was considered to be, and doubtless was at the time, the authority on hospital construction. This bare fact therefore is of significance and is

(Continued on page 19)

Amputation of the Extremities and Prosthesis in the U.S.S.R.*

PROF NIKOLAI N PRIOROV, M D, F.I C S (Hon.)
MOSCOW, U.S.S R

AMPUTATION of the extremities in gunshot wounds is, in a variety of cases, the sole means of saving the life of the wounded. In comparison with previous wars the number of amputations in the present war, both in the rear and at the front, has diminished by half.

The reasons for this decrease in the number of amputations are as follows:

1. Proximity of surgical aid to the wounded.
2. First aid to the wounded in the first hours after injury.
3. Radical surgical excision of the wound in medical sanitary stations near the front and in field hospitals.
4. The use of anti-tetanus serum in all cases of trauma and the use of anti-gangrene serum in cases of severe trauma.
5. Wide use of sulfa preparations.
6. Use of blood transfusion, without exception, where indication exists.
7. The possibility of retaining patients with severe wounds of the extremities in front-line hospitals until their condition becomes less grave.
8. Complete immobilization of the injured extremities.

We consider plaster cast the best method of immobilization. The majority of amputations are performed at the front and only an insignificant number, approximately one-fifth of all amputations, are performed at hospitals at the rear.

REASONS FOR AMPUTATIONS

The first and chief reason for amputation (up to 40 per cent) is severe destruction and crushing of the soft tissues, bones and joints, with acute disturbance to nutriment of the extremities.

The second reason is an extremity torn away when trauma is incurred, as a result of shell fragments, bombs, etc., and which remains connected to the body by only a patch of skin, thus necessitating only completion of amputation.

Third, the presence of sudden and fulminatingly developing gas infection when other methods of controlling it prove unsuccessful.

Fourth, gangrene of the extremities, after injury to the blood vessels, burns, freezing, etc. Amputations of this type are not numerous (from 1 to 2 per cent of the total).

Fifth, septic condition of the patient after trauma of the extremities, in the presence of phlegmon and purulent pockets and in acute osteomyelitis, when all methods of treatment prove unsuccessful and it becomes necessary to sacrifice the extremity to save the patient. Amputations as a result of these conditions constitute, according to our data, 7 to 9 per cent of the total. They are performed in hospitals close to the rear lines.

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*Presented at the Ninth National Assembly, United States Chapter of the International College of Surgeons, Philadelphia, Oct , 1944

METHOD OF AMPUTATION

We use both the "chop" and "guillotine" methods of amputation, but greatly prefer the guillotine because sufficient skin is saved to allow for a later skin plastic operation. In individual cases we cut out one or two skin flaps which, if favorable conditions exist, can later be used to close the amputation wound. In order to protect the flap from infection it is rolled into tube form and sutures. Primary amputations are never sutured.

We consider the following safeguards *obligatory in amputations:*

1. Prevention of the patient's becoming chilled during the operation by providing him with heat (warm blankets, heat pads, etc.).
2. Blood transfusions prior to and following operation. In primary amputation, blood is transfused in large quantities; in secondary amputation, it is transfused in small quantities.
3. Use of a tourniquet during the operation so as not to lose a single drop of blood.
4. Operation with the patient under anesthesia. We commonly use inhalation, intravenous and local anesthesia and also freezing.
5. Observation and care in the field hospitals where the amputation was performed for a period of two or three days following operation.

TREATMENT OF THE AMPUTATION STUMP

The cause of amputation and the methods of amputation just indicated determine subsequent treatment of the stump.

An infected stump is never sutured. When the stump progresses favorably we recommend an initial dressing on the eighth or tenth day, preferably under anesthesia. In such cases we observe that the amputation site is clean and covered with fresh granulations, and that inflammation is absent.

Secondary suture, preferably with the use of plastic buttons, is possible in order to gradually approximate the edges of the wound by tightening the suture.

These measures guarantee a good stump for prosthesis and preclude the necessity of re-amputation.

When the stump progresses unfavorably in the presence of infection (phlegmon, osteomyelitis, phlebitis, etc.) the wound is treated by the usual surgical measures: supplementary excision, antiseptics (sulfa preparations, penicillin, gramicidin, bacteriophage and others) and likewise by physiotherapeutic methods. The stump wound is treated with the aid of a Thomas brace in order to prevent the development of contractures.

A significant number (up to 80 per cent) of amputation stumps are diseased or defective.

Disease of the stump includes: nonhealing wounds, ulcers, osteomyelitis, ligature fistula, exostosis, neuritis, pains in the stump, phlebitis, disorders of the skin and contractures.

Defects of the stump include: excessively long or excessively short stumps, disarticulated stumps of the knee joint, ankle joint, wrist and shoulder, stump scars with bone adhesions, conical stumps, ankylosis and defects following bone plastic operations.

It is urgent to care for diseases of the stump and to remove defects. Physiotherapy, heat procedures, mud, tar, paraffin and ozocerite are extensively used for this purpose.

Cases which are not responsive to conservative treatment are subjected to operative treatment as follows:

a. Skin plastics
b. Plastic of local tissue

c. Excision of scar tissue with skin plastic
d. Removal of adhesions and removal of ligatures
e. Removal of neuromas and neurolysis
f. Sequestrectomy
g. Re-amputation

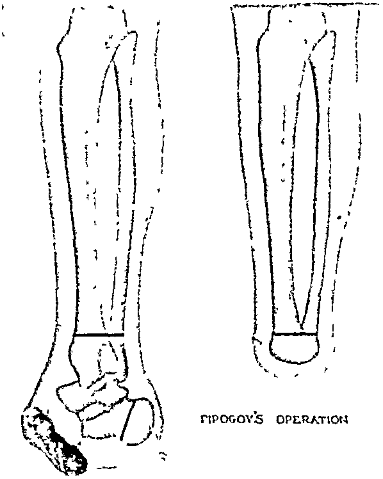

Fig 1. Pirogov's operation

Re-amputations constitute 40 to 60 per cent of all operations on the amputation stump and require special attention. The following questions arise with regard to re-amputation:

1. Indications for re-amputations
2. Time of re-amputation
3. Method of re-amputation

According to data compiled during the war by Soviet hospitals, indications for re-amputations have occurred in the following proportions: nonhealing wounds (up to 60 per cent), osteomyelitis (from 17 to 20 per cent), extensive scars with bone adhesions (10 per cent), exostosis, pains, etc. (10 per cent).

The time of re-amputation cannot be a matter of indifference. On the basis of

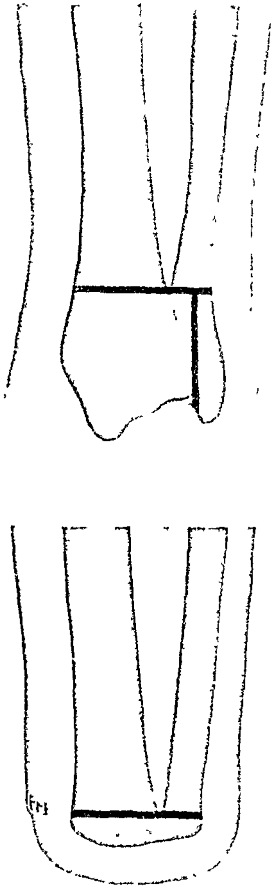

Fig. 2 Levy's operation

wide experiences we have reached the conclusion that the ideal time is the third month following primary amputation,

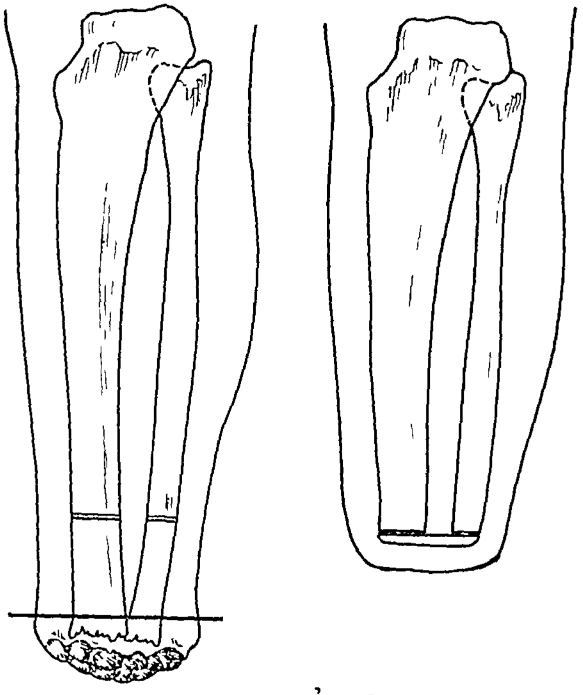

Fig. 3. Bier's operation.

when good granulation exists, inflammation and edema have disappeared, and when dense scars are not present. In cases of gas infection re-amputation is delayed until the sixth and tenth month.

The bone, in re-amputation, is cared for by the Bunge method. The bone canal is tamponed with a section of muscle, bleeding vessels are carefully tied, the nerve is cut at a fairly high level with a sharp blade and drainage tubes are inserted for one day.

The use of the bone plastic operations of Pirogov, Biers, Gritti-Stokes, Lew and Kirschner (Figs. 1–5) is widely recommended.

PREPARATION OF THE STUMP FOR PROSTHESIS

Exceptional attention is given to preparing the stump for prosthesis.

It is necessary to give consideration to making a good stump and one suitable for prosthesis from the very onset of treatment. In the first stage of stump treatment the appearance of binding scars, contractures and limitation of motion must be prevented. Physiotherapeutic methods of treatment are used in the second stage, after the wound has healed, and include massage of the ex-

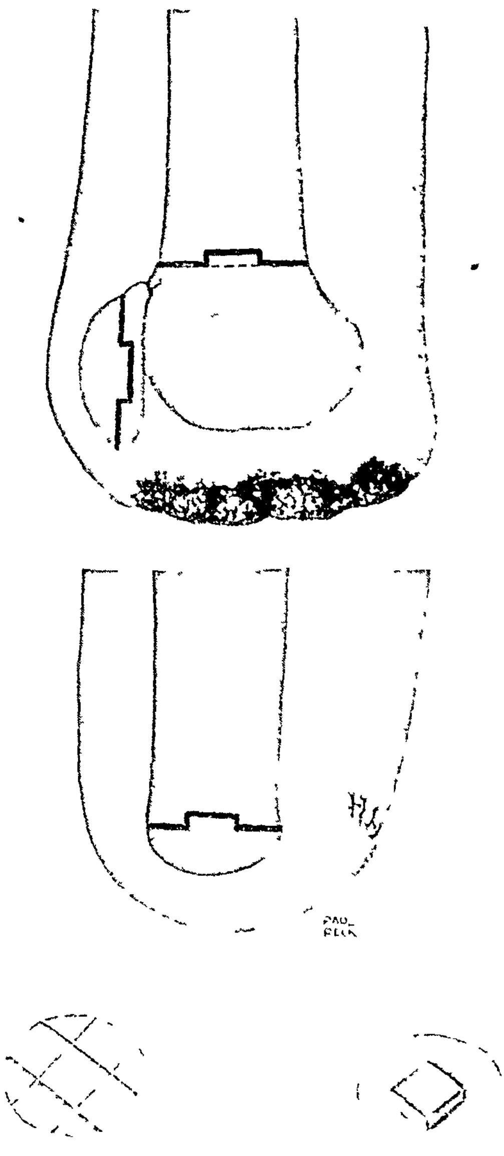

Fig. 4. Gritti Stokes operation.

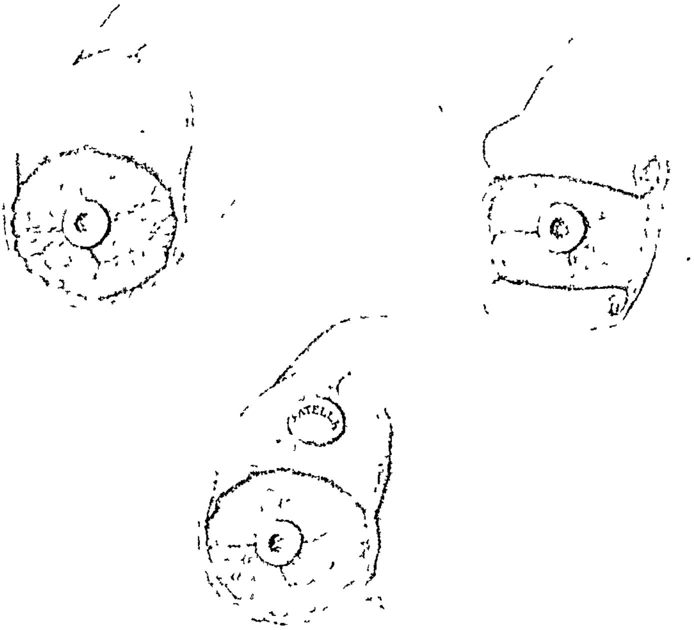

Fig. 5 Kirschner's operation

tremities, omitting the stump itself, contrast baths and electric stimulation. Stump exercises and gymnastics for the amputee, stump wrapping and training that accustoms the stump to withstand pressure are initiated early., Therapeutic prostheses are extensively used. The period of stump preparation continues for two to three months

ORGANIZATION OF PROSTHESIS SUPPLY

In the Soviet Union a network of special hospitals has been established for the purpose of supplying prostheses for amputees. Each hospital includes a department of orthopedics where the stump is treated, a department of physiotherapy where it is prepared for prosthesis, and a department of prosthesis where the artificial limbs are completed and fitted.

Our prostheses are made of wood, leather or emolyten. Our system of supplying limbs is divided into two types of operations: (1) manufacture of parts; and (2) assembly of the finished limb. Several factories exist for the manufacture of unassembled metal and wooden limbs. Assembly of the prostheses is handled by regional shops distributed throughout the Soviet Union.

Special attention is given to supplying prostheses for wounded men with bilateral arm amputations. Either a Krukenberg operation or phalangization is performed and the amputee is provided with an active artificial hand.

Healing the amputation stump and supplying a suitable prosthesis is the requisite for reëstablishing the patient's working capacity and providing him with employment. Up to 90 per cent of our amputees, after being treated and supplied with artificial limbs, return to the factories, plants and other establishments where they worked prior to the war.

Only labor can complete their rehabilitation. Only labor can heal their severe psychic wounds and restore their shaken nerves.

SUMMARY

The number of amputees in the present war has been reduced by one-half in the Soviet Union, and approximately 90 per cent of these are rehabilitated. The guillotine method of amputation is recommended. Subsequent treatment of the stump is determined by cause and method of amputation. An infected stump is never sutured. Initial dressing is applied on the eighth or tenth day. Diseases of the stump are treated by physiotherapy, heat procedures, mud, tar, paraffin and ozocerite. About 40 to 60 per cent of the cases require reamputation. Bone plastic operations of Pirogov, Biers, Gritti-stokes and Kirschner are recommended. Healing the amputation stump and supplying proper prosthesis is a prerequisite of rehabilitation. Prostheses in use in the Soviet Union are made of wood, leather or emolyten.

RÉSUMÉ

Dans l'Union Soviétique le nombre des amputés de cette guerre a été réduit de moitié et à peu près 90 pour cent de ceux-ci ont été réhabilités. La méthode d'amputation par guillotine est préconisée. Le traitement postopératoire est déterminée par la cause et la méthode d'amputation employée. Un moignon infecté n'est jamais suturé. Les maladies du moignon sont traitées par la physiothérapie, la chaleur, la boue, le goudron, la paraffine et l'ozokerite. Dans 40 à 50 pour cent des cas une réamputation est indiquée. Les opérations plastiques des os, tels que Pirogov, Biers, Gritti-Stokes et Kirschner sont recommandés. Il faut que la plaie soit guérie avant l'emploi de prothèse. Dans l'Union Soviétique les prothèses sont faites de bois, de cuirs ou d'emolyten.

SUMARIO

El número de los amputados en la guerra actual han sido reducidos un 50 por ciento en la Union Soviet y más o menos 90 por ciento de éstos son rehabilitados. Se recomiendo el método de guillotina para la amputación. El tratamiento del muñón se determina según la causa y el método de amputación. Un muñón infectado nunca se sutura. La cura inicial se hace en octavo o decimo día, el tratamiento de muñón consiste en la aplicación de la fisioterapéutica, calor, fomentaciones, fango, brea, parafina y otros medicamentos.

De 40 a 60 por ciento de estos casos necesitan reamputación. Las operaciones plásticas de Pirogov, Biers, Gritti-Stokes y Kirschner son recomendadas. La curación de los muñones y la applicación de protesis adecuada, son esencial requisitos para obtener rehabilitación. La prótesis en uso en la Union Soviet son construídas de madera, cuero y otros substitutos.

Выводы

В Советском Союзе количество ампутированных в настоящей войне было уменьшено на половину. Приблизительно 90% были реабилитированы. Предпочитается гильотинный метод ампутации.

Последующее лечение обрубка определяется причиной и методом ампутации Зараженный обрубок никогда не зашивается Первая перевязка накладывается на восьмой или десятый день Заболевание обрубка лечится физикотерапией, теплотой, грязью, смолой, парафином и озоцеритом 40%-60% должны быть реампутированы В случаях требующих пластику кости рекомендуются операции Пирогова, Биерса, Тритти-Стокса и Киршнера *Полное выздоровление обрубка* и снабжение хорошим протезом необходимо для реабилитации Протезы употребляемые в Советском Союзе делаются из дерева, кожи и эмолитена

DR HARVEY CUSHING (1869-1939)

(Continued from page 12)

of some historical interest *If you wish any further* details I will ask Mr Cochran, the president of the Board of Trustees, to let me have them

Very sincerely yours
HARVEY CUSHING

II

Boston, Mass
May 5, 1914

Dear Garrison

I have read the manuscript with deepest interest and think it will be a great pity if you do not publish it somewhere, for it contains just the sort of information that I have long been after myself and this means many others I have taken the liberty of making a few excerpts from it, which I shall be glad to use in a second edition of my pituitary volume should I ever get down to working at the thing again I was particularly glad to learn about Bordeu who threads his way through your pages so interestingly

As for my own things I think you have rather overdone it, and I have scratched one of the paragraphs where credit was given which we hardly deserve We were the first to show that experimental pituitary insufficiency led to constitutional symptoms comparable to those which Frohlich was among the first to call attention to in clinical cases, and up to this time there had been little idea that they were due to a lowered glandular function This of course has done much to accelerate our subsequent studies In his report a few years ago Aschner (Vienna) did not quite give us, I think, the credit that was our due However, these questions of priority bother me very little, and, as I have said, I think you have thrown more bouquets in our direction than are really deserved

Do by all means have the paper published, wherever it is that you proposed to publish it you do not say in your letter And be sure and send me a reprint How in thunder you ever managed to piece the thing together and to carry what you have in mind, particularly all these sympathicotomic and vagotonic matters, is beyond my comprehension

Ever sincerely yours,
H C

III

Boston, October 23, 1916

Dear Garrison

What do you think of the Munsterberg Hocking correspondence, which has caused a ripple here that may possibly not have reached Washington? Mrs Cushing has just finished H G Wells's book and recommends it highly to me She is very cautious about this, for I rarely get time to read novels, so that I presume it is unusually good, and I venture *to hand the recommendation on to you* I am amused at Colonel McCaw's remarks on Henry James's novels I have a little of this same feeling myself, though I have just been buying up a lot of the old and unaltered first editions for my wife who is addicted to them The knowledge of this may make you hesitate regarding the reading of H G Wells *However*, I pass it on for what it is worth

Ever affectionately yours,
HARVEY CUSHING

IV

Nov 28, 1928

Dear Fielding

I am glad to learn from you something about the Welch Library, and word has reached me from some roundabout source that they were lucky enough to get you to be their consultant or perhaps something even more than that, which delights me hugely I hope this doesn't merely mean that you have acquiesced in carrying a double load If they know their business they'll give you a handsome salary and get you over there to spend your days in quiet and enjoyable scholarship, free from the details that have been piled on you all these years in Washington Popsy's *proposal that I should some day* come down and take his place, I have always regarded as a huge joke, largely based on the fact that he and I have the same birthday But then, after thirty years and more in surgery, I am much older than he is Still, it was a pleasant and friendly gesture on his part which I never took *very seriously*

I wish I might know what Popsy has been doing with himself these eighteen months He must have had a delightful time browsing around Europe, and though I have written to him once or twice I have received the usual answer—no answer

Always affectionately yours,
HARVEY CUSHING

V

Boston, Mass, May 18, 1931

Dear Fielding

Your note of May 14th lies before me with the reprints which I had of course seen in the *Bulletin* of the Academy I always read everything you write, from books to book reviews, with a great thrill and hope you will continue to send me reprints of these scattered things, for I always put them in the books *to which they pertain*

And now you seem to have another big task on hand for the World's Fair

I wish I knew what outstanding achievements from

(Continued on page 52)

The Preoperative and Postoperative Treatment of Cancer of the Rectum and Pelvic Colon[*]

HARRY E. BACON, M.D., F.A.C.S.,[**] W. D. TODHUNTER, M.D.,[***]
O. C. GASS, M.D.,[****] AND F. D. WOLFE, M.D.

PHILADELPHIA, PENNSYLVANIA

PHYSICIANS here and abroad have become increasingly conscious of the curability of malignancy of the bowel by radical operative excision and the futility of radium, roentgen therapy and other local destructive methods against this disease. Too, it has been realized that resections of the sigmoid and rectum in stages ordinarily do not lessen, but rather multiply, the complications and sequelae which beset the patient. The prolonged period of hospitalization, the secondary manipulation of tissues, often contaminated or necrotic from the first stage procedure, may add to both the mortality and morbidity.

During the past decade, there have been conspicuous changes in pre- and postoperative management of patients with intestinal cancer. While a series of 712 resections without the establishment of an abdominal colostomy has been performed, as recently reported by Babcock and one of us (H. E. B.),[16, 19] this particular discussion is based on a group of 256 cases of cancer involving the anus, rectum and pelvic colon from the Department of Proctology of Temple University for the three-year seven-month period ending April, 1944. Of the 256 cases, 27 were located in the sigmoid, 87 rectosigmoid, 132 rectum and 10 anus. Resection was carried out in 208; an operability or resectability of 81.2 per cent. There were 16 deaths—a mortality of 7.6 per cent. In 145, a Babcock proctosigmoidectomy[17] was performed with 8 deaths—a mortality of 5.5 per cent; there were 49 consecutive resections with 1 death—a mortality of 2.04 per cent.

PREOPERATIVE PREPARATION

As is our custom, all patients are admitted to the hospital five to seven days prior to operation. A complete examination, including cystometric studies, is made and the patient placed in fluid, caloric, nitrogen and electrolyte balance. Fluids are encouraged freely by mouth, a minimum of 2500 to 3500 cc. daily unless contraindicated. One or more blood transfusions are administered in quantities sufficient to raise the erythrocyte count to four and one-half million. Plasma protein determinations were made on 74 consecutive patients upon admission, 22 of whom (or 29.7 per cent) showed hypoproteinemia; levels of 6.5 Gm. per 100 cc. or above were considered normal. Since approximately 30 per cent of patients with rectal and sigmoidal cancer show hypoproteinemia during the preoperative period, the nitrogen equilibrium is established and maintained by means of a low residue diet divided into four feedings per day consisting of carbohydrate 400 Gm., protein 120 Gm., fat 50 Gm., and amino acids (casein hydrolysate reinforced with tryptophane*) 300 to 400 cc., (20 per cent solution) orally each day.

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[*] Presented at the Ninth National Assembly of the International College of Surgeons held in Philadelphia, Pa., Oct. 3–5, 1944.

[**] Professor and Head of the Department of Proctology, Temple University School of Medicine. Diplomate of the American Board of Surgery

[***] Resident in Proctology.

[****] Assistant in Proctology.

No Grams			Calories	
400	Carbohydrate	× 4	1600	yields 341 Gm water
120	Protein	× 4	480	
50	Fat	× 9	450	
			2530	
300 cc	Amino Acids, 20%		240	
	Total		2770	

Transfusion Reaction. Many hypotheses have been promulgated concerning the pathogenesis of hemolytic transfusion reactions, such as ischemia of the kidneys from vasoconstriction,[73] blockage of the renal tubules by precipitation of the pigment,[77, 39, 40, 38, 93] nephrotoxic substances released from hemolysis[63] and anaphylaxis,[70] yet there is no therapeutic procedure which has proved uniformly successful. Our routine practice has been to maintain an adequate fluid intake and blood volume, and to alkalinize the urine in an effort to avoid agglutination and hemolysis of the donor's cells by the recipient's plasma. Sodium bicarbonate sufficient to maintain a urinary pH above 7.0 is given. Ordinarily, 2 Gm. (30 grains) three hours prior to transfusion and 1 Gm. (15 grains) every hour for three doses is prescribed. If intravenous administration is desired, we employ 5 per cent sodium bicarbonate or in preference a 1/6 molar sodium lactate solution.

Vitamin Therapy. A high incidence of subclinical avitaminosis, previously unsuspected but a potentially dangerous state, may occur as a result of diet, inability to utilize vitamins, failure of absorption of fat soluble vitamins in the absence of bile or depletion of vitamin reserve by excessive demands in malignancy. Routinely, by mouth, thiamin chloride 50 mg., nicotinamide 100 mg., ascorbic acid 100 mg., and pyridoxine 5 mg. are prescribed daily.

Non-Absorbable Sulfonamide Therapy. On the fifth preoperative day, a nonabsorbable sulfonamide is begun by mouth and continued to the morning of operation. Sulfasuxidine, succinylsulfathiazole, which we have employed in 131 cases (102 proctosigmoidectomies) of our total series, is given in an initial dose of 0.5 Gm. per kilogram body weight, followed by a dosage of 0.25 Gm. per kilogram every four hours daily. More recently, sulfathalidine, phthalylsulfathiazole,* a sulfonamide having a similar mode of action, but possibly exerting a more potent antibacterial activity has been studied in 54 cases including 19 proctosigmoidectomies. The initial dose is calculated on the basis of 0.1 Gm. per kilogram weight, the maintenance dose is estimated upon the same basis, the total daily amount being given every four hours in equally divided portions. Stools are collected and sent to the laboratory for quantitative estimation of coliform organisms. Low prothrombin levels may, at times, be raised by injection of vitamin K or synkayvite. Castor oil, 40 cc., is given on the evening of the second preoperative day. The following day (first preoperative), the patient receives glucose in water every hour and amino acids to total 2000 calories. On the morning of the operation, the rectum is irrigated until clear and residuum aspirated, amino acids and glucose solution are given orally. Synkayvite, 10 mg., is given three hours before operation. One-thousand cubic centimeters of 10 per cent glucose in physiologic saline are administered intravenously and continued during the operation with 500 cc. of whole blood. An indwelling (Foley) catheter is inserted into the bladder.

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* Supplied through the courtesy of F. D. Stearns & Co.

* Supplied through courtesy of Sharp & Dohme Company.

CARE DURING OPERATION

Our choice of anesthesia is fractional or continuous spinal, using 0.3 per cent pontocaine in 7 per cent dextrose solution. All patients submitted to radical extirpation routinely receive 500 cc. of whole blood during the operation, and if such is not obtainable, plasma is substituted. As can be appreciated, the circumstance of a suddenly depleted blood volume calls for immediate replenishment, and the quickest and best means to increase blood volume is by direct infusion of blood.

More than a decade ago, Coller and Maddock[34] pointed out that the water loss during an abdominal operation and the four hours immediately following may amount to as much as 1000 cc. Recently, Coller[32] and Pack[33] with their respective co-workers modified the original technic of Gatch and Little[49] to estimate the blood loss during surgical operations. In the performance of their abdominoperineal resections for rectal cancer, a blood loss ranging from 183 cc. to 900 cc., or an average of 410 cc. and 455 cc. respectively, was noted. Duodenal suction applied to an indwelling Levine tube is in force during the operation to avoid vomiting and regurgitation of vomitus into the lungs, which according to Wangensteen[100] is the most frequent cause of postoperative pneumonia. Suction is continued for a period of seventy-two hours or more following operation to prevent intestinal distention.

POSTOPERATIVE TREATMENT

Inhalation of high concentrations of oxygen is given for a minimum of twenty-four hours for the purpose of effecting a reduction in the amount of nitrogen, thereby diminishing intestinal distention.[45, 46] Oxygen also is of value to maintain capillary tone and tissue viability. The transfusion of whole blood given during the operation is followed by 5 per cent glucose in isotonic saline solution; additional whole blood and/or plasma is ordered as needed.

Status of Hydration. The patient's status as to hydration and acid-base balance is of utmost importance, for one should be ever mindful that the loss of fluid beyond that which is essential to insure healthy body economy is consistent with a deranged physiologic function. The degree of thirst, dryness of the skin and capillary turgor are helpful indices in the determination of the state of hydration, but there are other factors which are more reliable, such as the urinary output. For normal kidneys to concentrate urine to a specific gravity of 1.030 and excrete a minimum standard of 35 Gm. of waste material, 500 cc. of urine are required daily.[80] Severely damaged kidneys, on the other hand, with low concentrating capacity, require 1500 cc. of urine to excrete the same amount of solids. Maddock and Coller[72] estimate this to be the minimum daily urinary output in all ranges of function. Loss by vaporization from skin and lungs, computed as 1000 to 1500 cc. in ordinary surgical cases and 2000 cc. in the presence of an increased demand on the heat dissipating mechanism,[35] such as fever or hot weather, is also to be considered. Of value is the comparison with the preoperative fluid balance and blood studies: the plasma protein, specific gravity of blood plasma and whole blood, the cell volume of venous blood by means of the hematocrit and when practical, the daily weight[11] of the patient. By the foregoing, shock due to hemorrhage may be differentiated from that of circulatory collapse, dehydration in the presence of anemia, fluid and protein loss and the onset of edema levels determined.[41] Recently, we have employed the McClure-Aldrich test,[74] which consists of measurement of the disappearance time of an artificially injected wheal of normal saline solution, the efficiency of which, according to Appel and Bull[4] as well as Hopps and Christopher,[57] has been proved by the investigations of Kunde.[6] The test represents a means of estimating tissue avidity for water. In forty-two consecutive resections, we have found it a fairly reliable index to the state of hydration, provided the electrolyte equilibrium is considered.

Acid-base Balance. Sodium chloride metabolism, which cannot be divorced from water balance, should be understood, inasmuch as surgical procedures on the large bowel are frequently attended by abnormal losses of this important electrolyte. Under normal conditions the electrolyte concentration of the intracellular and extracellular body fluids is maintained at a relatively constant level, and while loss of electrolyte with a parallel loss of water from the extracellular compartment does not produce changes in electrolyte concentration, marked depletion in the extracellular reservoir of base and water results in a fall in total base concentration in the plasma. In patients with abnormal loss of fluid containing electrolytes, the relative proportion of acid and basic constituents should be known as well as the total base concentration, otherwise acidosis or alkalosis in addition to dehydration may ensue. Determination of the total serum carbon dioxide content and serum chlorides, from which the total base concentration may be approximated, the plasma protein, hematocrit, the daily urinary chloride concentration, loss by perspiration, computed by Coller and Maddock[35] as 3 Gm. per liter, loss by duodenal suction and by the Babcock intra-abdominal sump drain,[1, 10, 15] will assist in ascertaining the patient's electrolyte status. For the restoration and maintenance of physiologic concentrations and amounts of basic ions, acid ions and water, Elkington[43] suggested that three quarters of the total base requirements be given as isotonic sodium chloride and the remainder as sodium lactate or sodium bicarbonate. As will be recalled, approximately 90 per cent of the base in the extracellular fluid is sodium and all calculations and base replacements may be referred to the sodium ion. In a recent contribution, Coller[37] advises that because of the relatively high incidence of "salt intolerance," especially after general anesthesia, no isotonic saline or Ringer's solution should be given the day of operation, on the first or second postoperative day, that if significant loss of extracellular fluids occurs during this period, it be replaced with 0.5 per cent sodium chloride solution with 5 per cent glucose, and that great care be exercised in the administration of isotonic saline and Ringer's solution to patients who are hypoproteinemic, anemic, acidotic and oliguric.

Nitrogen Equilibrium. Nitrogen balance and the level of the blood protein has but recently been recognized as an important part of the pre- and post-operative care of the patient, although Lauter[68] nearly two decades ago showed experimentally that in malignancy there is an increased protein requirement

There is evidence at hand[91] that food given orally is more effective than that given intravenously and that adequate amounts of protein and carbohydrate are necessary to maintain normal glycogen stores in the liver. Yet there are a few days immediately following proctosigmoidectomy when parenteral administration must of necessity be employed if nitrogen equilibrium is to be maintained.

Rhoads[92] in addressing the American Proctologic Society a few years ago stated, "Every time a patient is subjected to a serious operative procedure, the patient not only loses nitrogen, but does not make it very well. As a result, if operation is begun on a patient already hypoproteinemic, his serum protein may continue to drop to a very dangerous level and complicate seriously his ability to survive the operation." Others concur in that the hypoproteinemia in cancer of the gastro-intestinal tract is aggravated by major surgical procedures.[7, 29, 76]

It is evident, therefore, that the osmotic effect of plasma proteins in the maintenance of fluid balance must be considered. Normally, blood proteins exert an osmotic pressure of 30 mm. of mercury. If loss of plasma protein occurs, following radical extirpations, such as proctosigmoidectomy, the systemic effect is a reduction in blood volume. As a result, the venous return is lessened, the cardiac output reduced, thereby producing a fall in blood pressure. Thus, a disturbance ensues in the relationship between the vascular bed and interstitial fluid. Unless treatment is instituted, the blood proteins become so depleted as to produce insufficient colloid osmotic pressure to maintain serum water for blood dilution.

There have been advanced several theories based on sound investigative work as to the cause of low serum protein levels in patients with cancer of the gastro-intestinal tract, among which may be mentioned: depletion of protein stores due to deficient diet,[6] continual or intermittent bleeding,[1] impairment of functional capacity of the liver,[2] causing limitation of plasma protein fabrication,[71] inability to properly absorb the amino acids necessary for protein synthesis,[1] and destruction of proteins in large amounts. Mayer and Kozoll[76] observed that 29.3 per cent of patients with gastro-intestinal cancer had average protein volumes below 6.0 Gm. per 100 cc. and following surgery, the protein deficits were considerably in excess in the cases of colonic cancer. In 65 consecutive resections for cancer of the colon and rectum, Binkley[27] found that 56 of the 65 patients (86 per cent) became hypoproteinemic (levels below 6.5 Gm. per 100 cc.). In our series, 17 resected patients in whom no treatment was instituted were taken as a control: 15 (or 88.2 per cent) became hypoproteinemic (6.5 Gm. per 100 cc. or above considered normal). In contrast, however, were 57 unselected patients with cancer of the rectum or sigmoid in whom postoperative hypoproteinemia was anticipated and effort made to attain and maintain nitrogen equilibrium by the administration of blood, blood plasma and amino acids in liberal amounts—15 of the 57 patients (or 27 per cent) following abdominoperineal proctosigmoidectomy showed serum protein levels below 6.5 Gm. per 100 cc. Whole blood, which increases the plasma protein level, the erythrocytic count and hemoglobin content, is given on the first postoperative day and repeated when indicated; 500 cc. of blood being equivalent to approximately 19 Gm. of protein. In accordance with the plasma carbon dioxide combining power, a solution of sodium bicarbonate 5 per cent, Hartmann's or M/6 sodium lactate is prescribed. Dependent upon the daily CO_2 content, the amount of sodium bicarbonate is determined by the following: Kg. wgt. × CO_2 content deficit (65 vol. %) × 0.026 = $NaHCO_3$ Gm. This is calibrated in terms of its equivalent of sodium lactate.

It is our practice following resection for cancer of the rectum or sigmoid, especially where no artificial abdominal opening is established, to give 2500 to 4000 cc. of fluid each day during the immediate postoperative period or until the patient can tolerate sufficient quantities by mouth. For example, the usual daily requirement following proctosigmoidectomy to maintain fluid, caloric, nitrogen and electrolyte balance, is not unlike the following:

Quantity		*Calories*	*NaCl*
2000 cc.	10% glucose in sterile distilled water	800	
1000 cc.	10% glucose in N/saline with	400	9.0 Gm.
300 cc.	Amino acids 15% sol.	180	
250 cc.	Blood, whole, aver. daily amt. (9.5 Gm.)	38?	
125 cc.	Blood plasma A.M.	74	
125 cc.	" " P.M.		
50 cc.	$NaHCO_3$ Hartmann's or M/6 sod. lactate		
80 cc.	Sodium sulfathiazole 2½ Gm. A.M. 2½ Gm. P.M.		
3930 cc.		1492	9.0 Gm.

Route of Administration. Ordinarily the intravenous route of administration is employed but when access to veins is difficult, we do not hesitate to utilize the subcutaneous and intrasternal means of injection. In no instance have we encountered any untoward reaction with blood, blood plasma, glucose and saline or amino acids (5 per cent solution) by the intrasternal route.

Sulfonamide Therapy. The resources offered by modern chemotherapeusis are of paramount value in preventing and combatting infection, especially peritonitis, which in comparison to other causes of death still consumes a heavy toll. Sulfonamide therapy (sodium sulfathiazole, 2½ Gm. morning and afternoon) has been employed in all our resections on the rectum and pelvic colon. Providing the urinary output is 1500 cc. or above, patients are given sodium sulfathiazole 2½ Gm. in 40 cc. of distilled water intravenously morning and afternoon beginning the day following operation. The blood level is determined every second day and urine examined for erythrocytes. Should the urinary output fall between 1200 and 800 cc. daily, only 2½ Gm. are administered, while below 800 cc. the drug is omitted. Sodium bicarbonate or sodium lactate is used routinely. Where the intravenous or oral route is not feasible, 0.8 per cent sulfanilamide in M/6 sodium racemic lactate is injected subcutaneously into the median aspect of the thighs.

In October, 1942, we initiated the use of a nonabsorbable sulfonamide in surgical extirpations on the lower bowel, and during the past year its employment has been routine. Sulfasuxidine, succinylsulfathiazole,[8] is given in suspension in the same dosage as before operation, namely 0.25 Gm. per kilogram body weight every four hours as soon as the patient is able to tolerate liquids by mouth, usually on the third or fourth postoperative day. As previously reported,[13] in our series of 145 cases in which an abdominoperineal proctosigmoidectomy was performed, there were eight deaths, four of which were due to peritonitis. Of these, namely four, only one had been given sulfasuxidine preoperatively but not postoperatively. This patient had an adenocarcinoma grade II of the rectum and a squamous cell carcinoma grade III of the cervix. Sulfathalidine, phthalylsulfathiazole, which according to Poth,[86, 88] shows two to four times the bacteriostatic activity of succinylsulfathiazole, has been employed more recently in 54 resections (19 proctosigmoidectomies). The drug is given postoperatively in amounts equal to the preoperative dose, namely 0.1 Gm. per kilogram body weight every four hours in suspension as soon as liquids are tolerated by mouth. While this drug seems to possess definite merit, we have not as yet accumulated sufficient data to warrant specific comparisons. Stools are collected and sent to the laboratory the morning following admission before the drug is given, on the morning prior to operation and on two occasions after operation. Allowing for such factors as failure to order the drug for the desired period, administration at night when the patient is asleep, prolonged use of Wangensteen suction, etc., a definite decrease quantitatively of the coliform organisms has been noted. In no instance have we encountered any untoward reaction. It may be mentioned that of our total series of 208 resections to April, 1944, including those to September, 1944, intra-abdominal soiling occurred in 11 instances as the result of perforation at the time of resection, contamination in open anastomosis or slipping of the clamp in closed anastomosis, yet there has been no fatality .Others have commented on the reduction of postoperative complications in surgery of the large bowel.[5, 11, 26, 38, [illegible], 82, 94]

POSTOPERATIVE COMPLICATIONS

Pulmonary Complications. Pulmonary embolism, which is one of the most dramatic catastrophies in the postoperative course, accounted for four deaths in our gross series of 208 resections (2 in 145 proctosigmoidectomies). As has been shown,[24] postoperative pulmonary embolism and venous thrombosis are more common where there is injury to, or ligation of, branches of the iliac veins, in operations of long duration and of great magnitude, in patients with malignancy and where infection is present. In our group, the four patients expired between the fifth and eighth day. In Nystrom's series,[81] the largest number of fatal cases occurred within ten days of operation, while Barker and his co-workers [25] observed that approximately one-quarter of their postoperative deaths due to pulmonary embolism occurred before the seventh day and approximately one-half before the fourteenth day. Of the four cases mentioned, there was no clinical evidence of thrombophlebitis prior to death. We inspect the lower extremities daily and insist that the patient move the limbs frequently in an effort to prevent stagnation. We have not kept patients flat in bed, as has been suggested, but rather prefer slant of the upper abdomen and thorax on the pelvis (Fowler's position), since with the abdominoperineal proctosigmoidectomy, abdominal drainage through the posterior wound is promoted. Heparin has been employed in but three non-fatal cases. According to Allen [3] heparin is helpful as a preventive measure in patients with a previous history of phlebitis, in patients who continue to have small infarcts after vein interruption and as a preliminary to dicumarol administration. While we have had no experience with dicumarol in the prevention of postoperative venous thrombosis and pulmonary embolism, the available data at hand seems promising provided its administration is controlled and individualized. Procedures such as lumbar sympathetic block,[52] and especially ligation of the vein above the thrombus[47, 56, 64, 75, 93] appear to possess merit. Inasmuch as the majority of pulmonary emboli have their origin in the deep veins of the lower extremity, it is plausible to assume that great strides may be anticipated from directive treatment.

Postoperative bronchopneumonia is extremely uncommon; two fatal cases having occurred in our gross series of 208 cases (one in 145 proctosigmoidectomies). We attribute this largely to the choice of anesthesia, Wangensteen suction during and after operation, frequent change of position immediately following and slanting of the thorax (semi-Fowler) the next morning, encouragement of deep breathing and frequent brisk slapping of the chest. Inhalations of 7 per cent carbon dioxide in 93 per cent oxygen have proved beneficial. Pulmonary atelectasis was observed in five instances of our total series. Bronchoscopic suction was employed in two instances; one patient required aspiration.

Malignant Invasion of Structures. In the series of 145 proctosigmoidectomies, malignant invasion of genito-urinary structures was found as follows: bladder in five instances, with partial resection in four; ureter in one, resected; uterus in two, hysterectomy in both; vagina in six, posterior wall resected in all; prostate in six, partial or complete resection in all. All were performed without a fatality. Shortly after admission, each patient is subjected to *cystoscopy* to ascertain if invasion of the bladder has occurred and to *cystometry* to determine if vesical dysfunction exists. The urine is cultured routinely. A Foley catheter is inserted into the bladder the morning of operation. The catheter is permitted to drain during the operation and after the patient is returned to the room, it is attached to a bottle beside the bed. The contents of the bottle are measured accurately at seven o'clock morning and evening. Twice daily, the bladder is irrigated with a warm solution of boric acid. Cystometry is repeated on the fourth postoperative day to determine the functional ability of the bladder. The catheter is removed on the fifth day; cystometric reading is made prior to discharge. The urine is collected for culture at the time of cystometry.

Urologic Complications. Urologic complications frequently provoke annoyance both to the patient and the attending surgeon. One of these is disturbance of the normal physiology of the bladder. There is little doubt that several factors influence the retention of urine following radical extirpation of the rectum, such as its close proximity to the bladder region, the character and severity of the surgical maneuver itself, the type, duration and depth of anesthesia, injury to the innervation, loss of structural support to the bladder and apprehensiveness of the patient.

The effect of spinal anesthesia on vesical function has been thoroughly discussed.[8, 23, 37, 48, 51, 58, 79, 85, 95, 97] As previously reported[20, 21] in a series of 1698 cases in which spinal analgesia was employed for low anorectal pathology, such as hemorrhoids, fistula, etc., complete data was available in 1126. Of this number, 81 patients (or 7.1 per cent) had urinary retention. The incidence following proctosigmoidectomy under fractional anesthesia, while greater, is not proportionately so when one considers the magnitude of the operation. By the same token, resections upon the upper and mid-sigmoid rarely manifest urinary retention compared to operations for low anorectal pathology.

It is our belief that to a large measure, the functional changes result from trauma to the parasympathetic fibers, although innervating elements, namely the pudendal and sympathetic may effect the clinical picture. In our experience, even with the utmost precision in the dissection of the posterior fascial planes, it is not difficult to injure the nerves and their connecting filaments. McCrea,[75] Hill[55] and others[62, 78] place considerable import on nerve injury as a factor, although Coller and Eastman[33, 36] are quite emphatic that neither the autonomic nor the somatic nerve supply is destroyed. In the classical Miles abdominoperineal resection, destruction of the pelvic floor and division of the structures adjacent permits sagging of the bladder into the large empty perineal wound and varying degrees of angulation on the vesical neck. The same is true with proctosigmoidectomy except that the presence of the sigmoid, previously occupied by the rectum, affords support, and with reëstablishment of an antero-lateral pelvic floor, approach of the bladder to its near-normal position and relationship is attained. In our series of cases, neurogenic vesical dysfunction was observed in 17 cases. It should be mentioned that we consider a hypotonic neurogenic bladder to represent one in which reintroduction of the catheter is indicated following removal of the catheter on the fifth postoperative day, because of inability to void and loss or absence of motor activity as evidenced by cystometric readings. The duration of urinary retention in this group of 17 cases was from a few days to several weeks; one required continuous catheterization for three months. No permanent functional disability was noted, as all cases returned to normal.

Various drugs and procedures have been advocated from potassium acetate[60] and prostigmin to serve as a parasympathetic stimulant and instillations of mercurochrome into the bladder,[102] to presacral nerve[30] and transurethral resection.[41] A few years ago, approximately one hundred patients were treated by instillation of 30 cc. of 0.5 per cent mercurochrome upon completion of the operation (hemorrhoids, fistula, etc.) but the results obtained were not particularly impressive and the experiment was discontinued. It has not been employed in any of our cancer cases, although some[51, 96] are most enthusiastic concerning its use. In our hands, syntropan, a sympathetic stimulant has proved valuable. McCrea[74] has advised 200 mg. three times daily. On the basis of the number of pus cells per high power field, there were 21 cases of urinary infection.

While not available at the moment, we are in the process of compiling the results of urine culture which will be reported in the near future. Of interest is a recent article by Milwidsky,[77] who found a high incidence of urinary infection following simple colostomy. Of the nonfatal complications, there were four instances of uremia, three of sulfonamide oliguria and in one, compression of the left ureter by scar tissue.

Abdominal wound infection and dehiscence has been an infrequent complication, and, to a great measure, we feel that it has been due to the maintenance of an adequate protein and vitamin C levels and to the use of oblique muscle-splitting incision and Babcock's alloy steel wire. Others have commented favorably on the latter.[12, 13, 14, 18, 42, 50, 52, 59, 61, 66, 84, 90, 104]

Time of Discharge. Patients following proctosigmoidectomy are permitted out of bed usually on the ninth to tenth day and recently the majority have been discharged from the hospital on the twelfth postoperative day. Approximation of the posterior sphincter musculature is made before the patient leaves the hospital but if there is purulent drainage from the presacral area, the sphincteroplasty is postponed for a month. This requires not more than three days hospitalization.

It is worthy of mention that the presacral wound consumes about three weeks for complete healing and closure —approximately that of an ordinary anorectal fistula. Thus, the majority of our recent cases have been able to return to their former or perhaps lighter occupations in an average of six to ten weeks following operation. In our other types of abdominoperineal extirpations, where a large perineal wound is made, at least three months was the average period required for healing.

SUMMARY AND CONCLUSION

From a gross series of 712 [16] cases in which radical resection was performed without colostomy, a group of 208 personal extirpations of the rectum and sigmoid for carcinoma has been selected as the basis for this discussion.

As previously reported,[19] the Babcock abdominoperineal technic of proctosigmoidectomy, without colostomy and with preservation of the sphincter muscle, possesses definite merit. It permits radical removal of the malignant bowel and gland bearing areas, and in spite of a high rate of resectability (81.2 per cent), enjoys a low operative mortality, 5.5 per cent in 155 resections; 2.04 per cent in 49 consecutive resections. It allows early discharge of the patient from the hospital, reduces the period of wound healing and affords early return to work. As will be shown,[103] preservation of the sphincter musculature (the muscle need be sacrificed in less than 20 per cent of all cases) does not compromise the radicability of the operation.

The physiologic derangement of patients with rectal cancer in whom extirpation is contemplated is deserving of careful consideration and therefore special attention should be directed toward the maintenance of the fluid, caloric and nitrogen and acid-base balance. Varying degrees of hypoproteinemia were found in 29.7 per cent of the patients on admission to the hospital. Following resection, 88 per cent of the patients showed hypoproteinemia where no treatment had been given, compared to 27 per cent where whole blood, blood plasma and amino acids were given in liberal quantities. Thus, it is evident that following radical excision, hypoproteinemia is a significant finding and that in the majority of cases a positive nitrogen balance may be achieved by the administration of protein. It has been observed that a diet rich in carbohydrate and protein given in low-residue findings has in no way interfered with a clean, tranquil bowel at the time of operation; neither has the diet affected the number of coliform organisms in the stool.

The results obtained with the nonabsorbable sulfonamides, namely sulfasuxidine and sulfathalidine, have made us enthusiastic concerning their use, especially when we consider the group of eleven cases in which gross contamination of the peritoneal cavity with fecal material occurred without subsequent fatality. Either drug should be employed preoperatively for a period of not less than four days, and postoperatively in suspension form as soon as liquids can be tolerated by mouth.

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It is our belief that to a large measure, the functional changes result from trauma to the parasympathetic fibers, although innervating elements, namely the pudendal and sympathetic may effect the clinical picture. In our experience, even with the utmost precision in the dissection of the posterior fascial planes, it is not difficult to injure the nerves and their connecting filaments. McCrea,[75] Hill [55] and others [62, 78] place considerable import on nerve injury as a factor, although Coller and Eastman [33, 36] are quite emphatic that neither the autonomic nor the somatic nerve supply is destroyed. In the classical Miles abdominoperineal resection, destruction of the pelvic floor and division of the structures adjacent permits sagging of the bladder into the large empty perineal wound and varying degrees of angulation on the vesical neck. The same is true with proctosigmoidectomy except that the presence of the sigmoid, previously occupied by the rectum, affords support, and with reëstablishment of an antero-lateral pelvic floor, approach of the bladder to its near-normal position and relationship is attained. In our series of cases, neurogenic vesical dysfunction was observed in 17 cases. It should be mentioned that we consider a hypotonic neurogenic bladder to represent one in which reintroduction of the catheter is indicated following removal of the catheter on the fifth postoperative day, because of inability to void and loss or absence of motor activity as evidenced by cystometric readings. The duration of urinary retention in this group of 17 cases was from a few days to several weeks; one required continuous catheterization for three months. No permanent functional disability was noted, as all cases returned to normal.

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A comparison of the cystometric recordings following operation with those prior to surgery has proved of special value in the determination of vesical dysfunction. Several factors should be considered in the etiology of urinary retention, one of the most important of which is destruction of or injury to the parasympathetic innervation.

It is our opinion that the individualized investigation and management of the patient before, during and after operation, has greatly reduced the complications and sequelae so common following radical extirpation for rectal cancer.

RÉSUMÉ

La technique pour la proctosigmoïdectomie sans colostomie et avec préservation du muscle sphincter fut employée avec succès dans 208 cas personnels d'extirpation du rectum et de l'anse sigmoïde pour carcinome. Cette opération permet l'enlèvement radical de l'intestin néo-plastique et des régions correspondantes des glandes lymphatiques. Malgré les hautes résections (81.2 pour cent) pratiquées, la mortalité ne dépassa pas 5.5 pour cent dans 155 résections; 2.04 pour cent dans 49 résections consécutives. Le séjour à l'hôpital est réduit, la guérison de la plaie s'effectue en moins de temps et permet au malade de reprendre son ouvrage plus tôt. Il n'est pas necéssaire de sacrifier le sphincter dans moins de 20 pour cent des cas. Il faut maintenir la balance de fluides, dè calories, de nitrogene et d'acide-basique. Hypoproteinemie rencontrée dans 29.7 pour cent des malades à leur entrée à l'hôpital et dans 88 pour cent des malades non-traités après l'opération est une importante complication. Les sulfonamides nonabsorbables (sulfasuzidine et sulfathalidine) employée avant l'opération pendant trois ou quatre jours, et après l'opération en suspension donnèrent d'excellents résultats dans onze cas de contamination de la cavité péritonéale par matières fécales. L'excrétion urinaire sera controlée. La rétention urinaire peut être due à la destruction ou au traumatisme des nerfs para-sympathétiques.

Les complications peuvent être grandement diminuées par l'étude individuelle des cas avant, pendant et après l'acte opératoire.

SUMARIO

La técnica de Babcock para la proctosigmoidostomía, sin colostomía preliminar, y conservando el músculo esfincter-anal, fueron ejecutadas en un grupo de 208 casos de carcinoma para la extirpación del recto y del sigmoideo. Las ventajas de dicha técnica son que permite excisión radical de la lesión neoplástica del intestino y de las areas glandulares metastáticas aún cuando el campo de resección operatoria es extenso (81.2 por ciento), la mortalidad fué 5.5 por ciento en 155 resecciones; 2.04 por ciento en 49 resecciones consecutivas. Los pacientes operados pueden ser despedidos del hospital más temprano, el período de cicatrización de herida se acorta y el convaleciente vuelve al trabajo en corto tiempo. El músculo anal solo es sacrificado en menos de 20 por ciento de todos los casos.

Especial atención deberá darse a la mantención del balance de líquidos, calóricos, nitrógeno, y el balance de acidos básicos.

Hipoproteinemia, que se encuentra en 29.7 por ciento de estos pacientes, y en 88 por ciento de los casos que no reciben tratamiento postoperatorio, constituye una complicación importante.

Muy satisfactorios resultados han sido obtenidos con el uso de sulphasuxidine y sulphathalidine cuando se emplean por lo menos cuatro días antes de la operación, y usados en suspensión, con excelentes resultados en casos de avanzada contaminación de la cavidad peritoneal con material fecal. Deficiencia vesical, puede ser evaluada por medio de observaciones cistométricas.

Retención vesical puede ser causada por destrucción o daño a los nervios parasimpacéticos.

Complicaciones y secuela pueden ser reducidas por las investigaciones clínicas y manejo especial del paciente antes, durante y después de la operación.

Выводы

Операция Бабкока состоит из брюшно-промежностной проктосигмоидэктомии без колостомии и с сохранением мышцы сфинктера. Она была успешно произведена авторами в 208 экстирпациях при раке прямой и сигмоидальной кишек.

Эта операция обладает несколькими преимуществами· она дает возможность радикального удаления злокачественной части кишечника и железной области; несмотря на высокий процент оперативности (81,2%) смертность очень мала, только 5 5% в 155 ресекциях и 2 04% в 49 последовательных операциях, она позволяет более быструю выписку из больницы, уменьшает период залечения раны и дает возможность рано вернуться к работе Не более чем в 20% необходимо пожертвовать мышцей. Но необходимо обращать особенное внимание на сохранение жидкостей и калорного, азотного и кисло-щелочного равновесия

Низкий протеиновый уровень крови, который обычно константирован в 29 7% случаев при поступлении в больницу и в 88% в нелеченных после-операционных пациентах является важным осложнением.

Не абсорбирующиеся сульфонамиды, именно сульфасуксидин и сульфаталидин, примененные за четыре дня до операции и, в суспензированной форме, после операции, дали великолепные результаты в 11 случаях массовой контаминации перитонеальной полости калом. Нарушение функции мочевого пузыря может быть установлено цистометрическими измерениями

Мочевое задерживание может быть причинено разрушением или повреждением парасимпатических нервов

Осложнения и последствия могут быть до большой степени предотвращены индивидуализацией исследования и постановки режима каждого пациента до, во время и после операции

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(Continued on page 92)

Surgeons and Events

by

DR. MAX THOREK

SIR BENJAMIN COLLINS BRODIE

(1783–1862)

Sir Benjamin Collins Brodie

SIR Benjamin Collins Brodie, cultured English gentleman, was the essence of that frequently scorned and often secretly envied orchid of *the medical profession*, the "society doctor."

Born at Winterslow, Wiltshire, in 1783, Benjamin was the third son of a clergyman whom God had blessed with four sons and two daughters. Peter Brodie, the descendant of a Jacobite exile from Scotland, sent his children neither to public school nor university, but gave them a rigorous training in Latin, Greek and mathematics, instilling in his sons industrious habits and a love of labor.

In *1798, when England was deep in* the throes of war with France, at the age of 14 Benjamin became an ensign in a company of Volunteers.

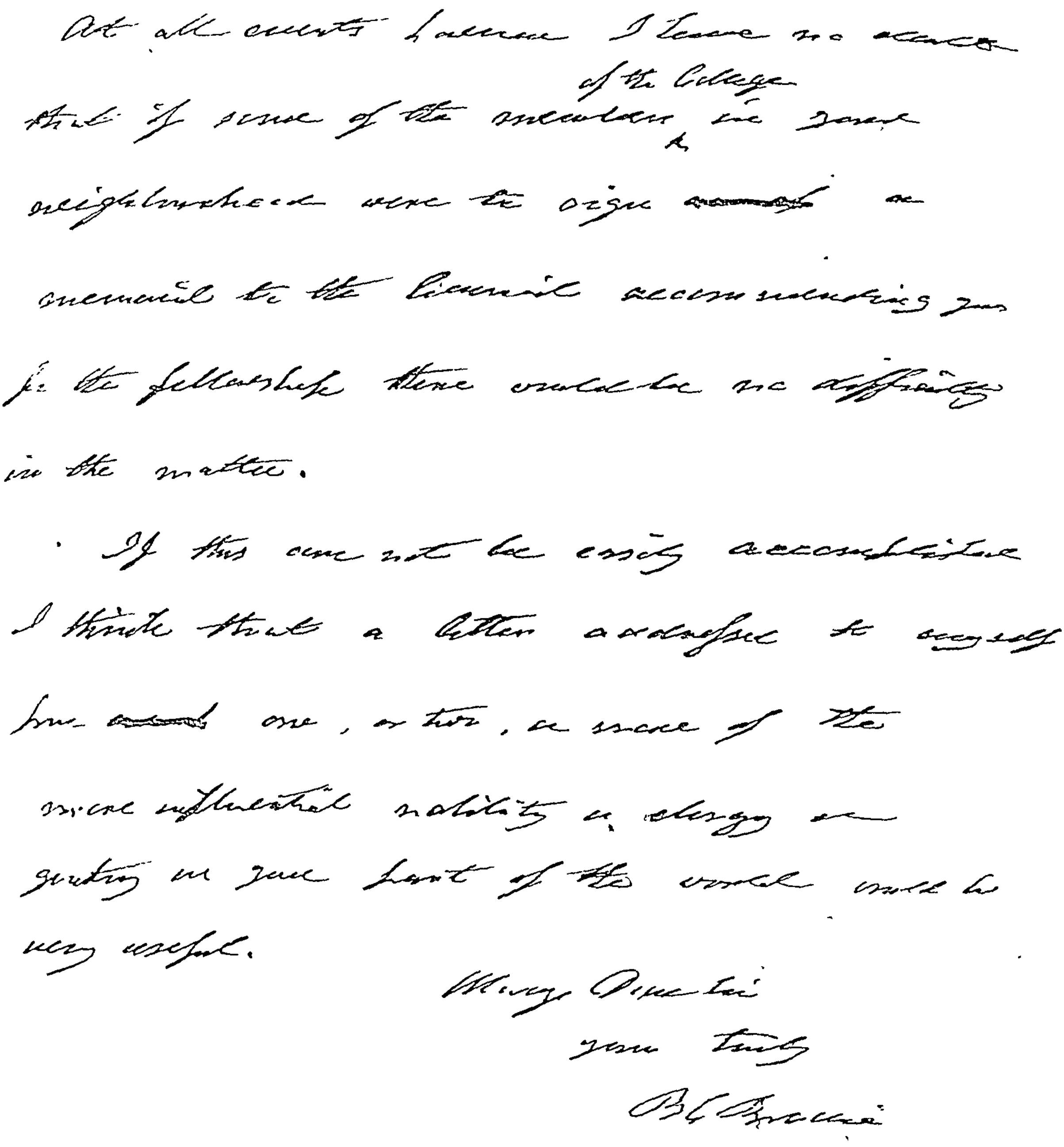
The following year Brodie was sent to London to study medicine under Sir Everard Home. His connections were unusually good. Dr. Denman had married his aunt; Dr. Baillie (Hunter's nephew) and Sir Richard Croft (the leading *accoucheur* of the day) had each married one of his cousins. Through his older brother, who was a lawyer, and a cousin, Benjamin enjoyed the friendship of eminent members of the legal profession and London society. Brodie himself considered his student years *(1799–1803) the most important of his* life, for during this formative period he *acquired the habits of perseverance*, industry and concentrated attention which were the the foundation stones of his career. Strangely enough, Brodie had no especial taste or desire for the profession in which he became so proficient. The unremitting zeal with which he attacked his studies sprang from a sense of duty only. It was as a student that Brodie formed a life-long friendship with William Lawrence, the only surgeon of his day worthy to be ranked with Brodie and Sir Astley-Cooper.

In 1801 the young medical student

entered Abernethy's School of Anatomy. The following year he was a pupil in Mr. Wilson's dissecting room and spent some time in an apothecary's shop learning *materia medica.*

House-surgeon at St. George's Hospital during 1805, Brodie resigned to become a lecturer in anatomy at the Windmill St. school, at the same time continuing to attend both Abernethy's and Home's lectures on surgery.

Brodie's first bit of fortune on the



At all events however I have no doubt that if some of the members of the College in your neighbourhood were to sign ~~[illegible]~~ a memorial to the Council recommending you for the fellowship there would be no difficulty in the matter.

If this can not be easily accomplished I think that a letter addressed to myself from ~~and~~ one, or two, or more of the more influential nobility or clergy or gentry in your part of the world would be very useful.

Always Sincerely
yours truly
B C Brodie

Portion of letter reproduced from original in the collection of the author, showing his interest in promoting the welfare of his colleagues.

road to professional success was Mr Home's invitation to act as his assistant, a position which Brodie held for two years and a half At the same time he worked for Mr Home at the museum of the College of Surgeons

Soon after, Brodie was appointed to assist Home and Gunning at St George's Hospital, with which he was connected until 1840 When Gunning went to war, Brodie and Keate took over the work of the junior surgeon Together they made a real innovation in the surgical practice of that day They were the first surgeons in England to adopt the practice of daily hospital visits and personal supervision of the care of their patients

In 1809 Brodie entered private practice, his reputation as a clinical teacher and lecturer on anatomy and surgery already established His labors were interrupted for a short while by illness, but they were resumed with renewed vigor following his marriage in 1816 to the daughter of Sergeant Sellon, the distinguished lawyer Brodie's marriage was a very happy one, three children surviving to maturity, namely, Sir Benjamin Brodie, a daughter and the Rev William Brodie

At this epoch of his life may already be seen his interest in other branches of medicine than surgery He was a member of the "Animal Chemistry Club" the "Society for the Promotion of Medical and Chirurgical Knowledge" and the Royal Society Influenced by Bichat, Brodie devoted much time to physiologic experiments During 1810–1814 he wrote four papers which greatly enhanced his medical reputation one on the influence of the brain on the action of the heart, a second on the effects of certain vegetable poisons, which won him the Copley Medal in 1811, a third on the influence of the nervous system on the production of animal heat, a fourth on the influence of the pneumogastric on the stomach secretions

This period might also be considered the most important from the standpoint of literary productivity His two publications of note were "Diseases of the Urinary Organs" and "On the Pathology and Surgery of Diseases of the Joints" (1819)

In 1821 Brodie first attracted the royal attention which culminated in his appointment as Surgeon in Ordinary to His Majesty (1828) Two years later he became a constant attendant on the dying George IV Although he never attended William IV personally, Brodie was appointed Serjeant Major, an honor which he retained to the end of his life

After acting as Assistant Surgeon for fourteen years at St George's, Brodie became Surgeon in 1822 Dr Matthew Baillie and Thomas Young, his intimates, were among the influential friends who aided Brodie in his professional advancement Another friend was Rose

Brodie had built his own operating theater in Windmill St and founded a museum of surgical pathology During the evenings he lectured to the students, but in 1830 during the full tide of success, this teaching was put in the hands of junior colleagues, although he continued to deliver clinical lectures during the early part of the day in the lecture theater of the hospital As the leading London surgeon, Brodie's private practice during this period was enormous, amounting to between £6,500 and £11,000

The formation of the Hospital Medical School in 1831 created a situation fraught with complexities Brodie and Caesar Hawkins were appointed joint lecturers on Surgery, and students obtained their anatomical instruction from two schools, Dr. Brodie's on Windmill St. and Mr. Lane's. Out of this situation arose a quarrel which saddened Brodie's later years and was only terminated by the removal of Mr. Lane's school to St. Mary's Hospital thirteen or fourteen years later—to the detriment of St. George's. Meanwhile the board room of St. George's was the scene of violent and unseemly disputes, which were carried to public attention by letters in newspapers and by pamphlets.

In 1834 Brodie, the undisputed leader of the surgical profession in London, was made a baronet. At this time also he became officially connected with the College of Surgeons, which owed its prestige for many years largely to Brodie's reform measures. He sponsored the establishment of the rank of Fellow, introducing higher examinations as qualifications for that degree. He instituted vast improvements in every department of the College; henceforth, examinations for membership were conducted at two distinct periods and a part of the examinations were written. Brodie was instrumental in obtaining a new Charter from the Crown in 1843.

In February 1837, Brodie delivered the Hunterian Oration at the College of Surgeons. He also took his first tour abroad, spending a month in Paris. Since the acceptance of a baronetcy entailed the holding of landed property, in 1837 Brodie purchased Broome Park, an estate of 450 acres about twenty-four miles from London. Here during the summer and autumn he spent each week end, entertaining many distinguished guests.

On the occasion of his resignation as surgeon from St. George's, Brodie was honored at a public dinner at which he was presented with the "Brodie Medal," especially designed for the occasion.

Meanwhile Brodie continued to do some writing. In 1854 he published "Psychological Inquiries," a series of dialogues upon the various attributes and states of the mind and the influences acting upon them. They deal with sleep, dreams, death, religion, science, education and other related subjects. Many of his papers in the "Medico-Chirurgical Transactions" of the Royal Medical and Chirurgical Society are still standard authorities on the subjects treated. In 1842 there appeared in the *Quarterly Review* an amusing paper by Brodie on "Quacks and Quackery."

During his later years Brodie was active in a number of scientific organizations, being president of the Royal Medical and Quirurgical Society, the Western Medical and Surgical Society of London, the Ethnological Society, the Social Economy Section of the National Association for the Promotion of Social Science, the General Medical Council and the Royal Society of Medicine.

His integrity of character and his professional prominence are revealed in several instances. In 1850 Brodie attended Sir Robert Peel following the latter's fatal fall from a horse. In 1856 he was called as a witness in the celebrated trial of William Palmer. Three years later his assistance was again invoked to prevent a miscarriage of justice in the Smethurst case, Smethurst being acquitted of the murder of his mistress as a result of Brodie's testimony.

In 1860 failing eyesight caused Brodie to spend the greater part of his time in retirement at Broome Park. Afflicted with severe lumbago, Brodie suffered additional pain when a tumor appeared in the region of his right shoulder. He died on his Surrey estate on October 21, 1862.

(Continued on page 68)

Plastic Operations on the Kidney*

OSWALD S. LOWSLEY, A.B., M.D., F.A.C.S., F.I.C.S.**
NEW YORK, NEW YORK

PLASTIC operations on the kidney may be divided into two main groups: those upon the cortex, and those concerned with defects of the kidney pelvis.

Animal experiments performed by the author upon rabbits and dogs have made it possible to do almost any type of operative procedure upon the cortex of the kidney. It was found from these experiments that pads of fat placed upon bleeding vessels and held in place by ribbon gut properly applied could produce almost immediate hemostasis. A series of 16 dogs was subjected to nephrostomy. In upper pole nephrostomy, pads of fat held in position by ribbon gut stopped the bleeding in an average of 1½ minutes, while particles of muscle applied to a nephrostomy wound in the lower pole of the same kidney, under identical circumstances, took an average of 19½ minutes to produce hemostasis, thus proving the vast superiority of fat as a hemostatic agent in the cortex of the kidney. This method of repairing kidney wounds has made it possible to do many operations upon this organ which formerly were either impossible or hazardous.

Reparation by the wrapping of ribbon gut about the kidney does away with the necessity of placing mattress sutures in the cortex. Since vessels in the renal cortex are terminal, mattress sutures cause necrosis of a fan shaped area of parenchyma extending from the location of the suture to the limits of the cortex. Not only does this area become necrotic, but it sometimes sloughs away, resulting in massive bleeding that may require nephrectomy.

Conservation of the kidney is a most important consideration, therefore, the urologist must use every means at his disposal to relieve obstruction of the upper urinary tract. This is often due to an aberrant vessel crossing the upper part of the ureter or to actual stricture at the ureteropelvic junction. In the former case, the trouble is readily relieved by ligating and excising the vessel. In the latter instance, more extensive procedures are necessary and these will be described in some detail.

OPERATIONS ON THE KIDNEY CORTEX

Operations on the kidney cortex include numerous procedures which have been made feasible by the development of the fat and ribbon gut method of repair. Among them are simple nephrostomy, calycelectomy, heminephrectomy, the removal of simple cysts of the cortex, and the excision of pieces of loose kidney tissue, with repair and drainage.

The scope of this paper does not permit descriptions of all of these methods, but it does seem advisable to describe at some length a case of heminephrectomy.

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* Presented at the Ninth National Assembly of the International College of Surgeons held at Philadelphia, Pa., Oct. 3-5, 1944.

** The Department of Urology, James Buchanan Brady Foundation of the New York Hospital.

CASE REPORT

F. P., a female, aged 23 years, was admitted to the Brady Foundation of the New York Hospital, complaining of continual leakage of urine which had existed since birth. She had been told that she had a vesicovaginal fistula. Her past history, general physical examination, and laboratory tests were negative. Vaginal examination showed, 1 cm. below the urethra and to the left of the midline, a small opening which emitted spurts of clear fluid. A probe inserted into this passed easily into what was thought to be the bladder, giving the impression that this was a vesicovaginal fistula. The probe was withdrawn and a ureteral catheter inserted for 20 cm. Cystoscopy, however, revealed no evidence of the catheter. Both ureteral orifices appeared normal in size and location.

It was decided that the patient had an accessory ureter opening into the vaginal vestibule. Retrograde pyelographic studies confirmed this, and showed a left double kidney. The accessory ureter, leading to the upper kidney, was greatly dilated due to a stricture at its lower end.

Under spinal anesthesia, a left heminephrectomy was done through the usual loin incision and under rib-resection technic. The accessory kidney segment was found to form the upper pole of a double kidney, being enclosed within the same capsule. The kidney was freed and mobilized. The supernumerary ureter, which was posterior and somewhat lateral to the normal ureter, was clamped and cut low down and the stump ligated and cauterized. The kidney capsule was then incised, exposing a very shallow groove marking the division between the two kidney segments. The arterial supply to the upper segment was furnished by a branch from the main renal artery. Upon clamping this, the upper segment, consisting of approximately

Fig. 1. Calycelectomy by fat and ribbon gut method. Photomicrograph of operative area. (Dog sacrificed eight weeks after scalpel resection of middle calyx.) *A.* Pelvis with mild chronic pyelitis. *B.* Fibrosed capsule. *C.* Operative area. *D.* Small island of bone in scar tissue. *E.* Parenchyma free of infection.

one-sixth of the renal mass, assumed a slightly dusky color The venous return was evidently through the normal kidney segment The accessory kidney was excised by sharp dissection through the line of demarcation, very little bleeding ensuing A pad of fat was placed in this fossa, and the margins of the normal kidney were approximated by interrupted sutures of chromic ribbon gut passed through the capsule.

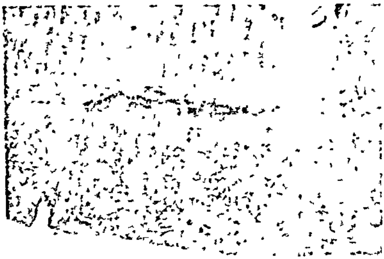

Fig 2 Right kidney (dog) traumatized without rupturing capsule Note area of hemorrhage, necrosis of tubules, and deposits of calcium in tubules This may occur if adequate drainage is not instituted.

The patient was discharged on the twenty-third postoperative day, with the wound healed and her incontinence cured Excretory urograms made one year later showed excellent function of the remaining kidney segment.

PLASTIC OPERATIONS FOR THE RELIEF OF OBSTRUCTIONS AT THE URETEROPELVIC JUNCTION

Many types of plastic operations have been suggested for the relief of obstructions at the ureteropelvic junction, indicating the uncertainty with which this problem is approached. Failures of these various procedures have been estimated at nearly 30 per cent by Mathé, and many urologists have abandoned plastic surgery in these cases because of the unsuccessful outcomes. However, the purpose of all renal surgery (except in malignant disease and tuberculosis) should be the conservation of functioning tissue, if this can be done with safety to the patient.

The success of any plastic procedure on the ureteropelvic junction is dependent upon (1) determination of the *exact* cause of the obstruction before the institution of reparative surgery, and (2) the employment of prolonged nephrostomy drainage and ureteral splinting until the repair is complete.

Most obstructions at this point are due to one or more of the following conditions: (1) stenosis (congenital or acquired); (2) high insertion of the ureter on the renal pelvis; (3) hypertrophy of the ring muscle at the ureteropelvic junction; (4) kinking of the ureter; (5) aberrant renal blood vessels. Frequently *more than one factor* is responsible. For example: Stenosis and an abberant vessel may co-exist, in which event both conditions must be remedied if adequate drainage is to be established. Merely severing an aberrant vessel outside the ureter, while a constriction within the duct—the real cause of the obstruction—goes unrecognized and untreated, will not relieve the obstruction. The presence of obstruction can be shown by pyelography, but

Fig 3. Left kidney (dog) traumatized without rupturing capsule Note focus of calcification in pyramid—"Randall's kidney stone"—and area of calcification beneath mucosal lining This, also, may occur in the absence of adequate drainage

CASE REPORT

F. P., a female, aged 23 years, was admitted to the Brady Foundation of the New York Hospital, complaining of continual leakage of urine which had existed since birth. She had been told that she had a vesicovagina fistula. Her past history, general physi examination, and laboratory tests were ne tive. Vaginal examination showed, 1 below the urethra and to the left o midline, a small opening which emitte of clear fluid. A probe inserted passed easily into what was tho the bladder, giving the impressi was a vesicovaginal fistula. T withdrawn and a ureteral c for 20 cm. Cystoscopy, how evidence of the catheter. fices appeared normal in

It was decided that th accessory ureter opening

ve ce

l six ter injecting con- ation the nephrostomy l so there is evidence was contrast solution

Photomicrograph, dog. Shows left hemi- my with healing. Fat-and-ribbon-gut method.

the area of repair, the tube and catheter are left in place. ealing is complete—usually in s—both are removed. The renal v heals in twenty-four to s.

DURE

the sur- the 's g

Fig. 1. Calycectomy by fat-and-ribbon-gut method. Photomicrog eight weeks after scalpel resection of middle calyx.) A. Pelvis capsule. C. Operative D. Small island of bone in scar

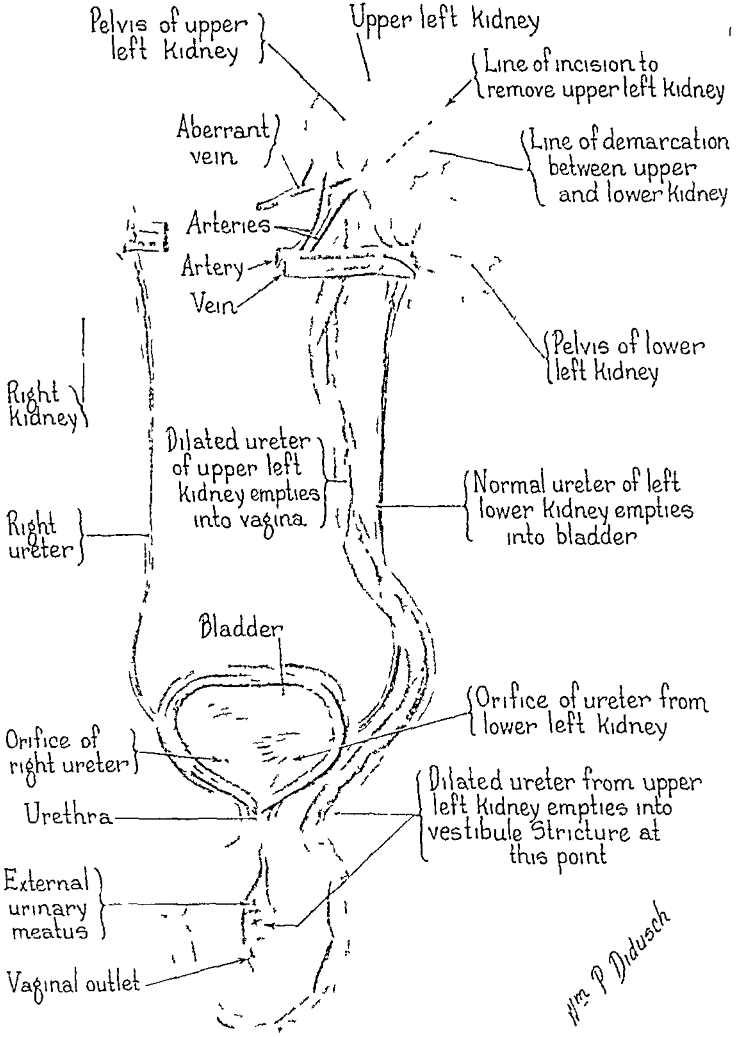
Pelvis of upper left Kidney
Upper left Kidney
Line of incision to remove upper left Kidney
Aberrant vein
Line of demarcation between upper and lower Kidney
Arteries
Artery
Vein
Pelvis of lower left Kidney
Right Kidney
Dilated ureter of upper left Kidney empties into vagina
Normal ureter of left lower Kidney empties into bladder
Right ureter
Bladder
Orifice of ureter from lower left Kidney
Orifice of right ureter
Urethra
Dilated ureter from upper left Kidney empties into vestibule Stricture at this point
External urinary meatus
Vaginal outlet
Wm P Didusch

Fig 5 Heminephrectomy in double kidney with accessory ureter opening into vestibule Showing condition present before operation double kidney and ureter on left side Ureter from the upper kidney empties into the vestibule of the vagina and is distended due to a stricture at its lower end The ureter from the lower kidney is normal and empties into the bladder at the usual site on the trigone (From Lowsley and Conroy J Urol, 45 611 1942)

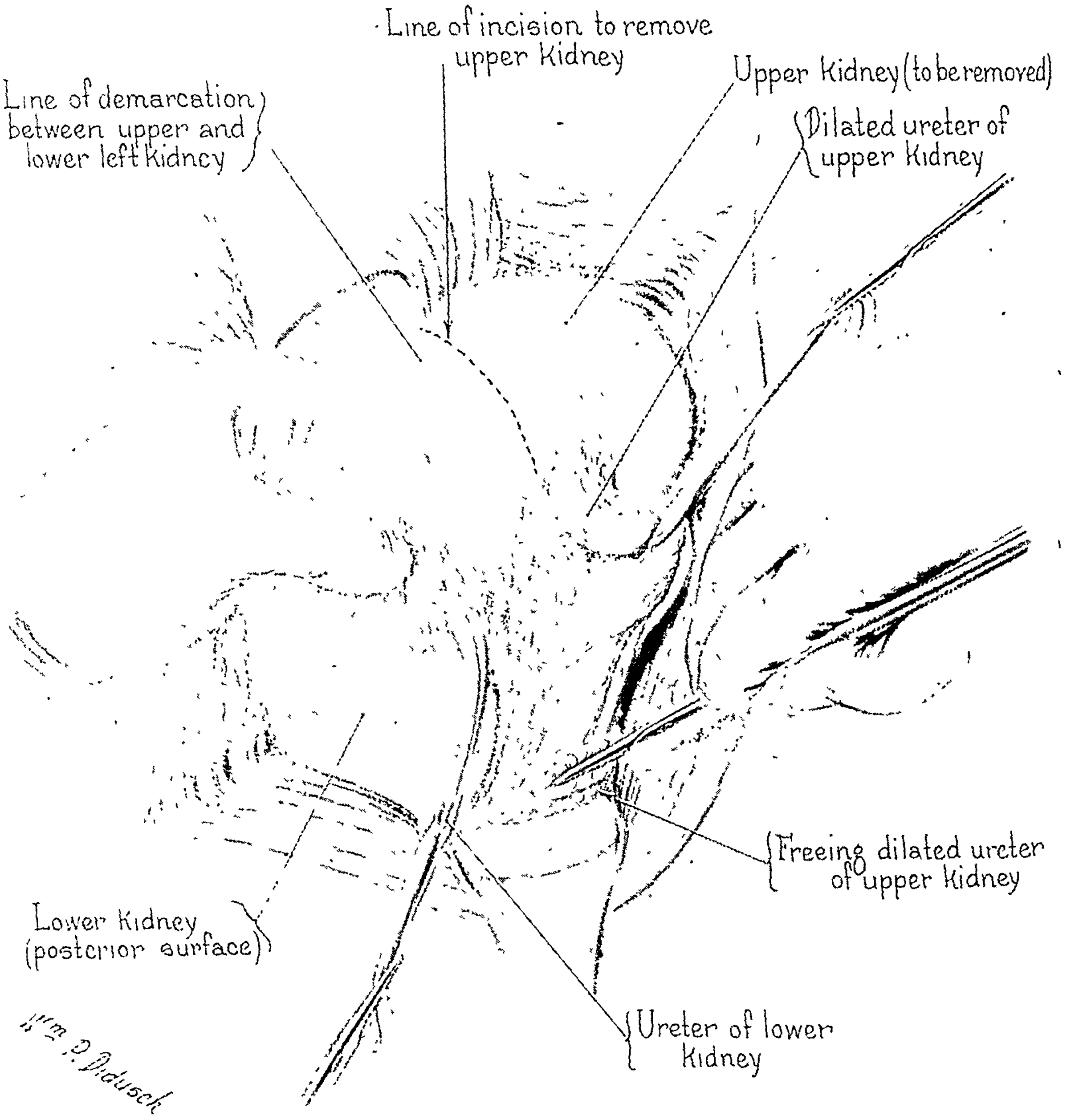
Line of incision to remove upper kidney
Upper kidney (to be removed)
Line of demarcation between upper and lower left kidney
Dilated ureter of upper kidney
Freeing dilated ureter of upper kidney
Lower kidney (posterior surface)
Ureter of lower kidney
Wm P. Didusch

Fig. 6. (Heminephrectomy in double kidney with aberrant ureter.) The double kidney has been exposed through the usual lumbar incision. The greatly dilated ureter to the upper segment is being freed downward. The ureter to the lower kidney is normal. (From Lowsley and Conroy.)

tion is examined through an incision in the lateral wall of the ureter at this point.

The upper part of the ureter is then freed. A Malecot catheter (usually No. 20 to 26-F.) is pulled through the lower calyx by means of a curved clamp inserted from the pelvis through the cortex. Alongside this is placed a soft rubber ureteral catheter (No. 10, 12, or 14-F.), passed through the nephrostomy wound and pelvis and down the ureter to a point well below the site of repair, to be used as a ureteral splint.

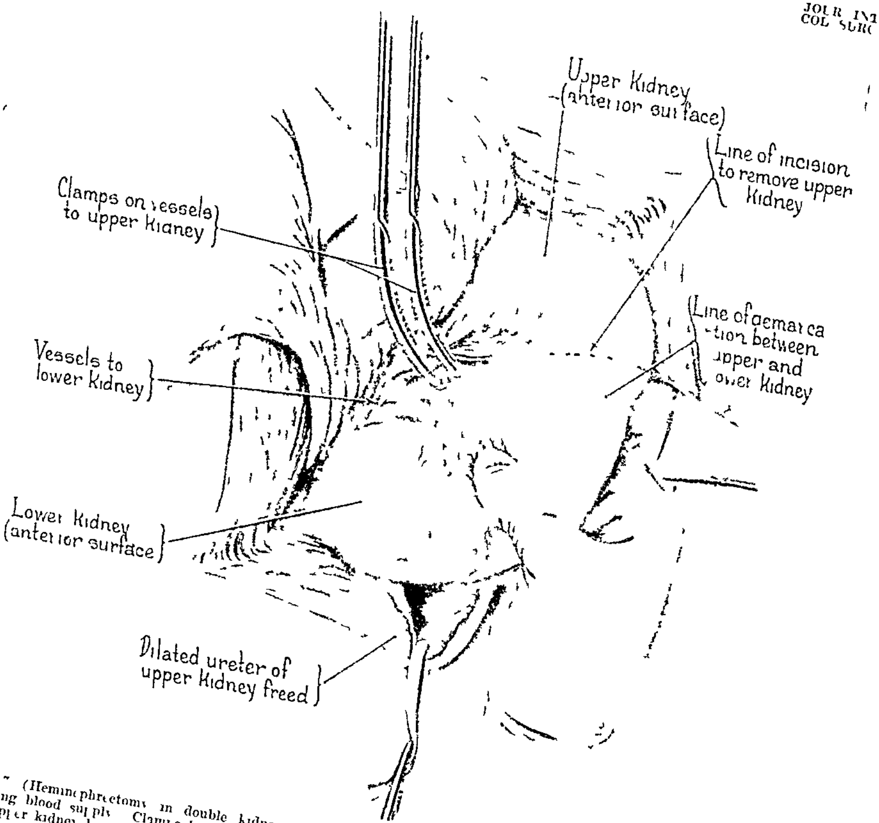
Upper Kidney (anterior surface)
Line of incision to remove upper Kidney
Clamps on vessels to upper Kidney
Line of demarcation between upper and lower Kidney
Vessels to lower Kidney
Lower Kidney (anterior surface)
Dilated ureter of upper Kidney freed

Fig. [illegible] (Heminephrectomy in double kidney with aberrant ureter.) Anterior surface of double kidney showing blood supply. Clamps have been placed on the vessels to upper segment. The dilated ureter from the upper kidney has been freed downward as far as possible. Note line of incision to remove upper kidney; this is just above the demarcation of the upper and lower kidneys. (From Lowsley and Conroy.)

A Y incision is then made in accordance with Foley's method, placing the longitudinal incision, or stem of the Y, on the lateral border of the ureter, one arm of the Y on the anterior surface of the pelvis and the other on the posterior surface. The tip of the triangular flap of pelvic wall is sutured to the lower end of the ureteral incision by interrupted sutures of No. 0000 chromic catgut on an atraumatic needle, including all layers of the wall in the suture but attempting to get as accurate an approximation of tissue as possible.

This leaves a *V*-shaped draining ostium at the ureteropelvic junction, which promotes normal drainage.

The kidney is returned to its bed; one Penrose drain is placed at the site of the nephrostomy drainage and another at the site of the repair. The wound is closed in layers—the drains, nephrostomy tube and splinting catheter being brought out near its posterior angle.

Postoperatively the Penrose drains are removed in three or four days, and the nephrostomy drain and splinting catheter in about six weeks. During this period the urine is carefully checked for evidences of infection and as to its pH. It is preferable to have the urine on the acid side as an alkaline infection may lead to the deposition of calcium. Frequent flat plates are taken to rule out the latter. Pyelograms are made at intervals of three and six weeks to check the progress of the repair; and after the wound is healed, retrograde pyelographic studies are repeated and the function and emptying time of the kidney carefully checked. These patients should receive interval dilatations of the ureter postoperatively, the intervals being prolonged with the symptoms and renal findings as a guide.

Illustrating the efficacy of this method is the following case:

CASE REPORT

M. Z., a male, aged 27 years, was admitted to the Brady Foundation of the New York Hospital for the relief of right flank pain of one year's duration, and left flank pain of four months' duration. There were no urinary or gastro-intestinal symptoms, and urinalysis was negative. Retrograde pyelograms showed bilateral hydronephrosis, more marked on the left side, with considerable retention of dye in the 10-minute delayed film.

The right kidney was explored and ureteropelvic stenosis was found. A Foley Y-plasty' procedure was done.

Three weeks later, the left kidney was exposed by rib-resection technic and an obstructing fibromuscular ring was found at the ureteropelvic junction. This ring was removed, a Foley Y-plasty was done, and a portion of the distended pelvis was resected.

The postoperative course was uneventful. Both nephrostomy tubes and both splinting ureteral catheters were allowed to remain in for six weeks. The patient was discharged forty-four days after the second operation, asymptomatic and with both wounds well healed.

He returned to the Clinic for regular checkups. Retrograde pyelograms taken ten months postoperatively showed an excellent result on the right side, with minimal hydronephrosis and no retention of dye in the 10-minute delayed film. The left pyelogram showed marked reduction in the hydronephrosis, with moderate retention of dye in the 10-minute film. At present this patient is receiving interval dilatations of both ureters. His urine remains negative and he is asymptomatic except for occasional slight pain in the left flank.

CONCLUSIONS

1. The fat-and-ribbon-gut method of repairing wounds of the renal cortex has been an important addition to our armamentarium for performing plastic operations upon the kidney.
2. This method permits the removal of large pieces of kidney that have been damaged by traumatism, but the kidney itself will be saved.
3. A calyx which is necrotic and the site of repeated stone formation may be removed with impunity by this method.
4. Simple cysts of the kidney, causing damage within the capsule, may be excised without fear.
5. Heminephrectomy may be successfully accomplished, and the remaining segment of the kidney safely left in, by the fat-and-ribbon-gut method of repairing the line of excision.

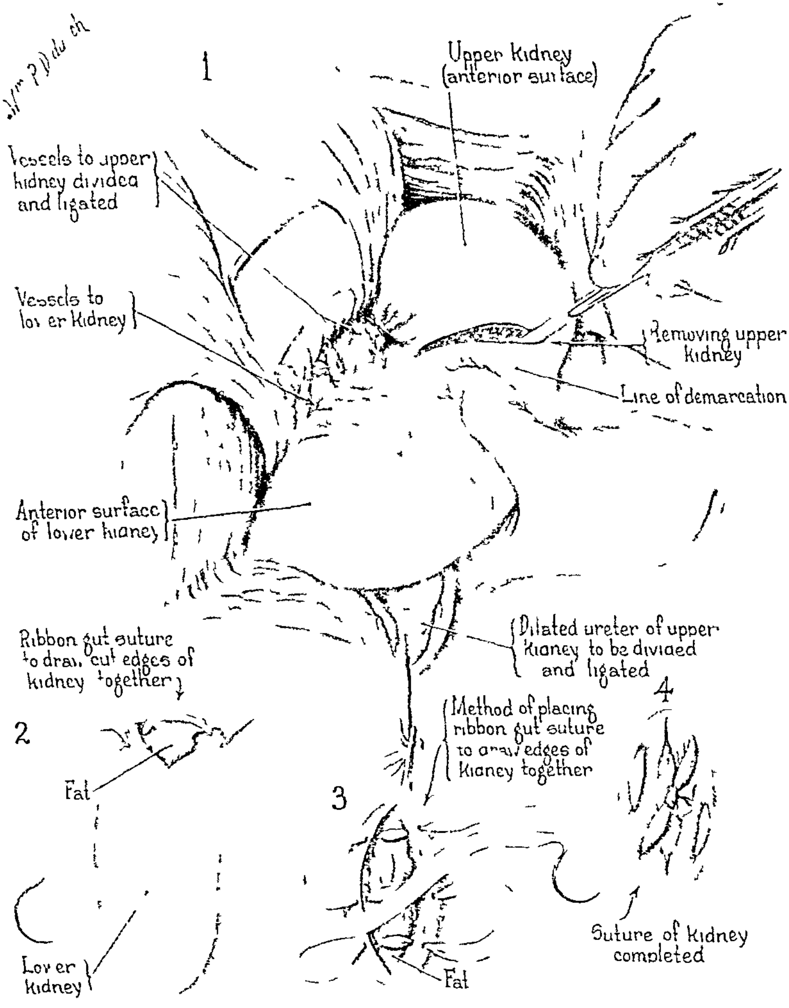
Wm P Didusch
1
Upper kidney (anterior surface)
Vessels to upper kidney divided and ligated
Vessels to lower kidney
Removing upper kidney
Line of demarcation
Anterior surface of lower kidney
Dilated ureter of upper kidney to be divided and ligated
Ribbon gut suture to draw cut edges of kidney together
2
Fat
4
Method of placing ribbon gut suture to draw edges of kidney together
3
Lower kidney
Suture of kidney completed
Fat

Fig 8 (Heminephrectomy in double kidney with aberrant ureter) Removing upper kidney *1* Vessels have been clamped divided and ligated Upper kidney being separated from lower kidney by sharp dissection The dilated ureter to the upper kidney was then clamped divided and ligated (*2 3 4*) Showing fat placed in cut surface of kidney and wound drawn together by ribbon gut suture (From Lowsley and Conroy)

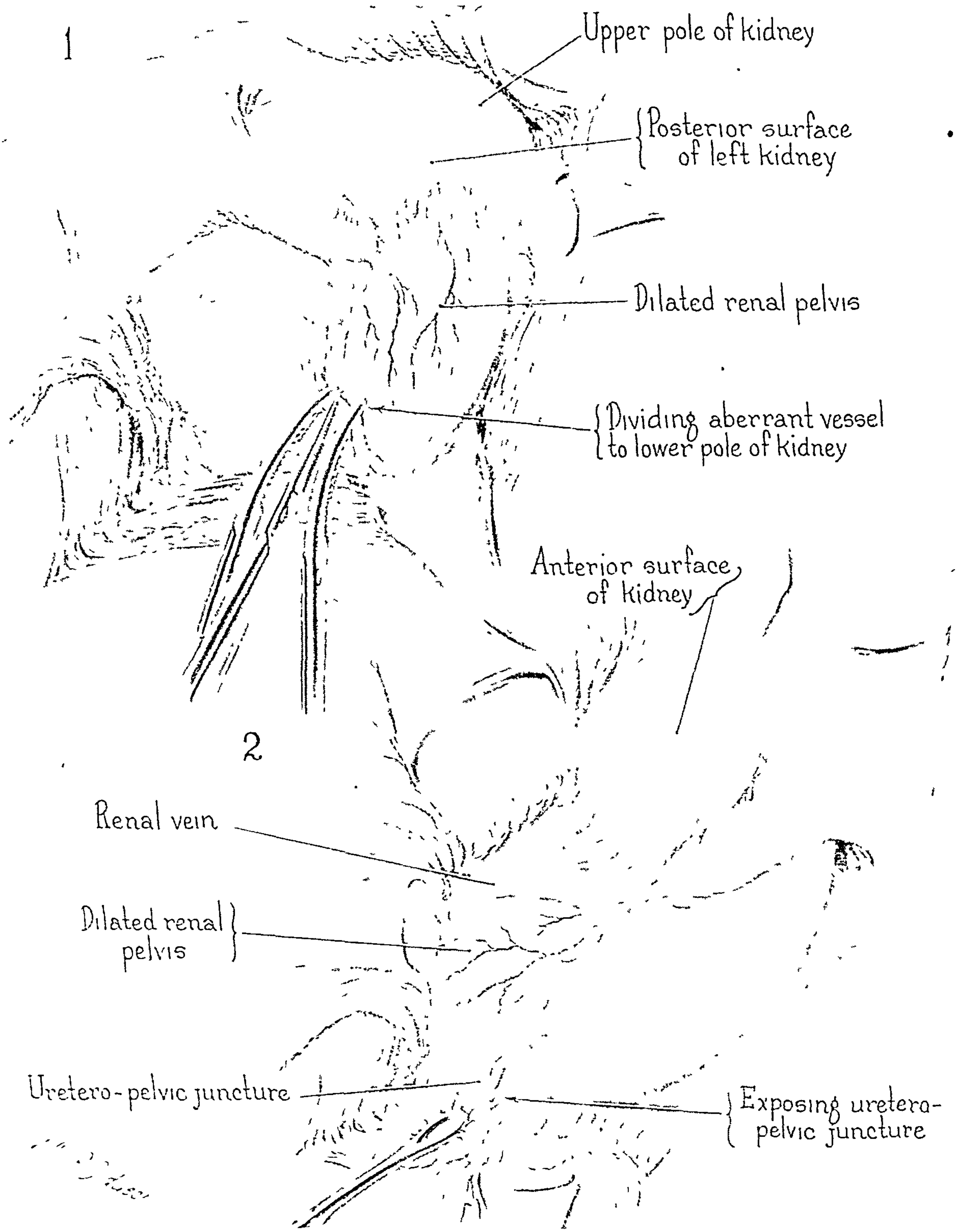
1
Upper pole of kidney
Posterior surface of left kidney
Dilated renal pelvis
Dividing aberrant vessel to lower pole of kidney
Anterior surface of kidney
2
Renal vein
Dilated renal pelvis
Uretero-pelvic juncture
Exposing uretero-pelvic juncture

Fig. 9. Plastic operation for ureteropelvic obstruction (resection of fibromuscular ring at ureteropelvic junction: Foley Y plasty; excision of redundant pelvis). Left kidney. *1.* Posterior surface of kidney and pelvis has been exposed (twelfth rib resected). The renal pelvis is greatly dilated. An aberrant vessel to the lower pole is being divided. *2* Shows anterior surface of kidney Ureteropelvic junction being freed. (From Henline and Menning: J. Urol., *50*.1, 1943)

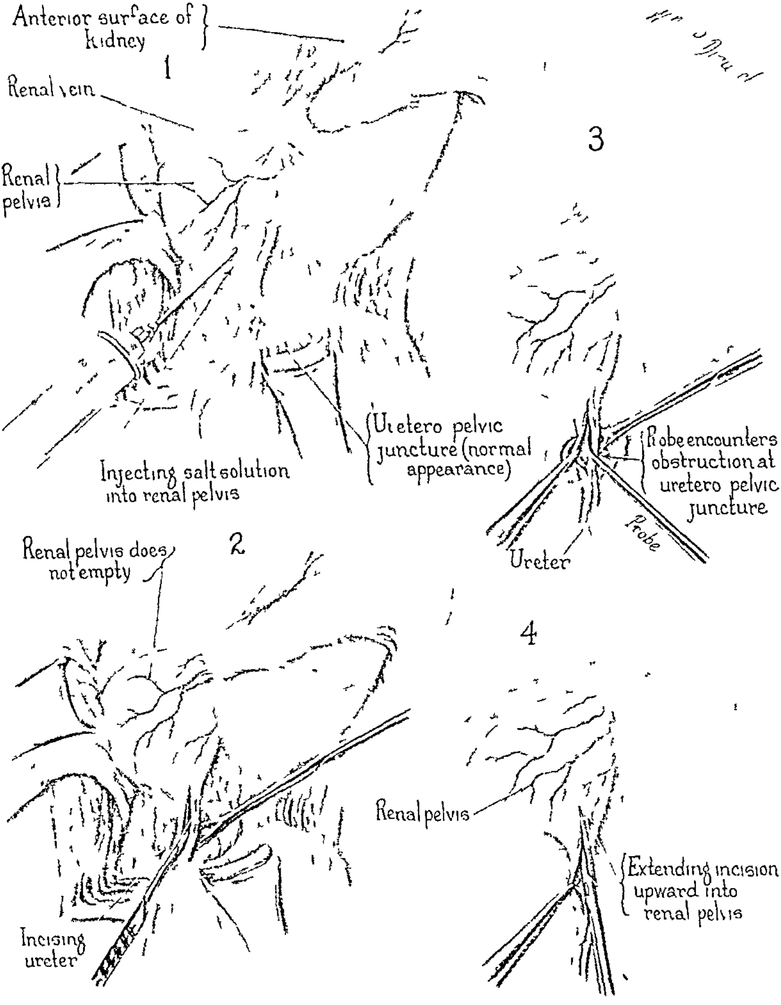
Anterior surface of kidney
1
Renal vein
Renal pelvis
Injecting salt solution into renal pelvis
Uretero pelvic juncture (normal appearance)
3
Probe encounters obstruction at uretero pelvic juncture
Probe
Ureter
2
Renal pelvis does not empty
Incising ureter
4
Renal pelvis
Extending incision upward into renal pelvis

Fig 10 (Plastic operation for ureteropelvic obstruction left kidney) *1* Ureteropelvic junction has been freed and appears to be normal Injecting salt solution into pelvis to determine if it empties *2* Pelvis does not empty Incising ureter below ureteropelvic junction *3* A probe passed upward encounters obstruction at ureteropelvic junction *4* Extending incision upward into pelvis (From Henline and Menning)

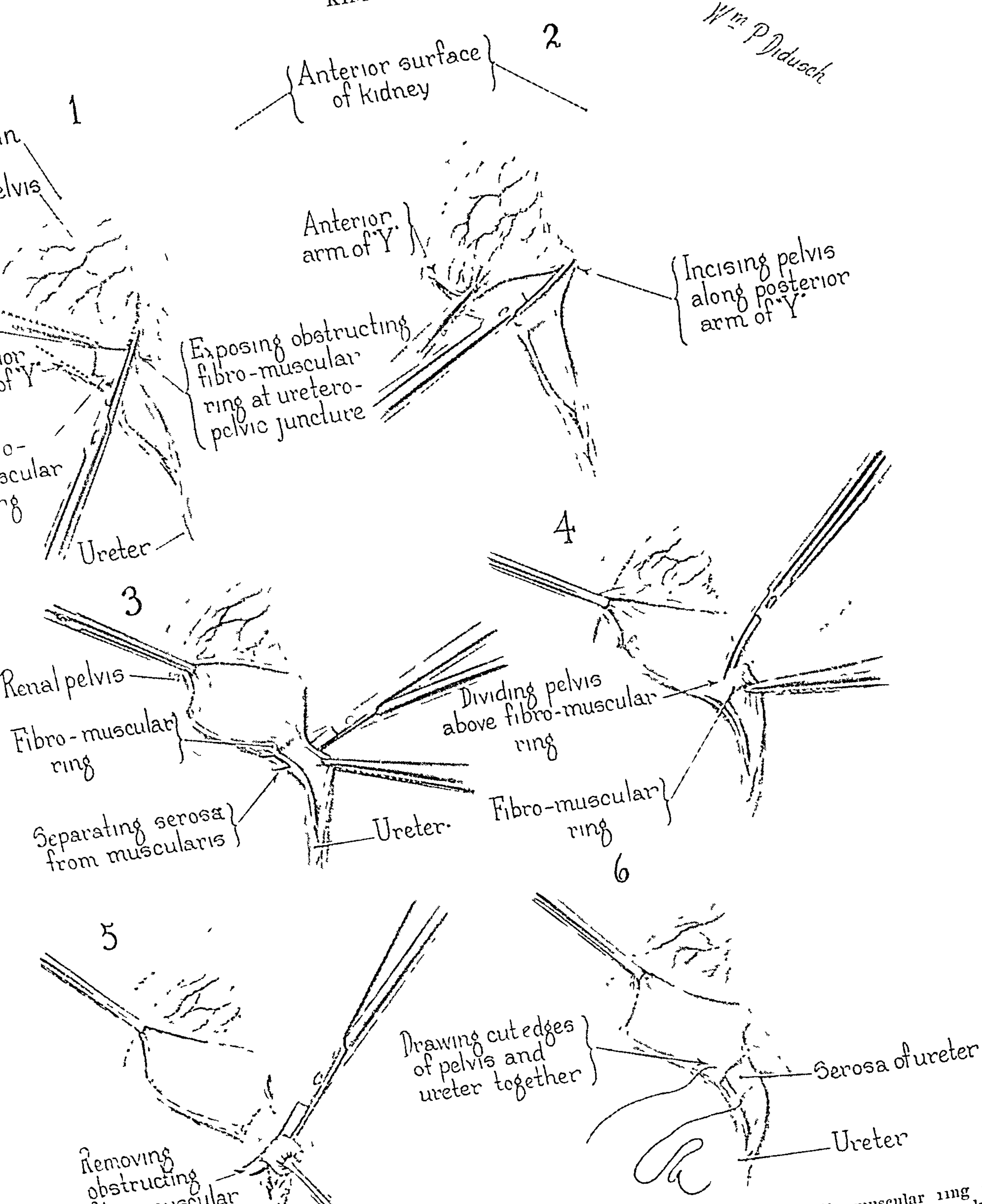
Wm P Didusch
1
2
Anterior surface of kidney
elvis
ior of "Y"
o- scular ng
Exposing obstructing fibro-muscular ring at uretero-pelvic juncture
Ureter
Anterior arm of "Y"
Incising pelvis along posterior arm of "Y"
3
Renal pelvis
Fibro-muscular ring
Separating serosa from muscularis
Ureter
4
Dividing pelvis above fibro-muscular ring
Fibro-muscular ring
5
Removing obstructing fibro-muscular ring
6
Drawing cut edges of pelvis and ureter together
Serosa of ureter
Ureter

Fig. 11 (Plastic operation for ureteropelvic obstruction.) *1* Exposing obstructing fibromuscular ring at ureteropelvic junction. Dotted line indicates anterior arm of Y for plastic operation. *2.* Incising pelvis along posterior arm of Y. *3* Separating serosa from muscularis before removing fibromuscular ring. *4.* Dividing pelvis above ring. *5* Resecting ring. *6.* Approximating cut edges of pelvis and ureter after removal of obstructing tissue. (From Henline and Menning.)

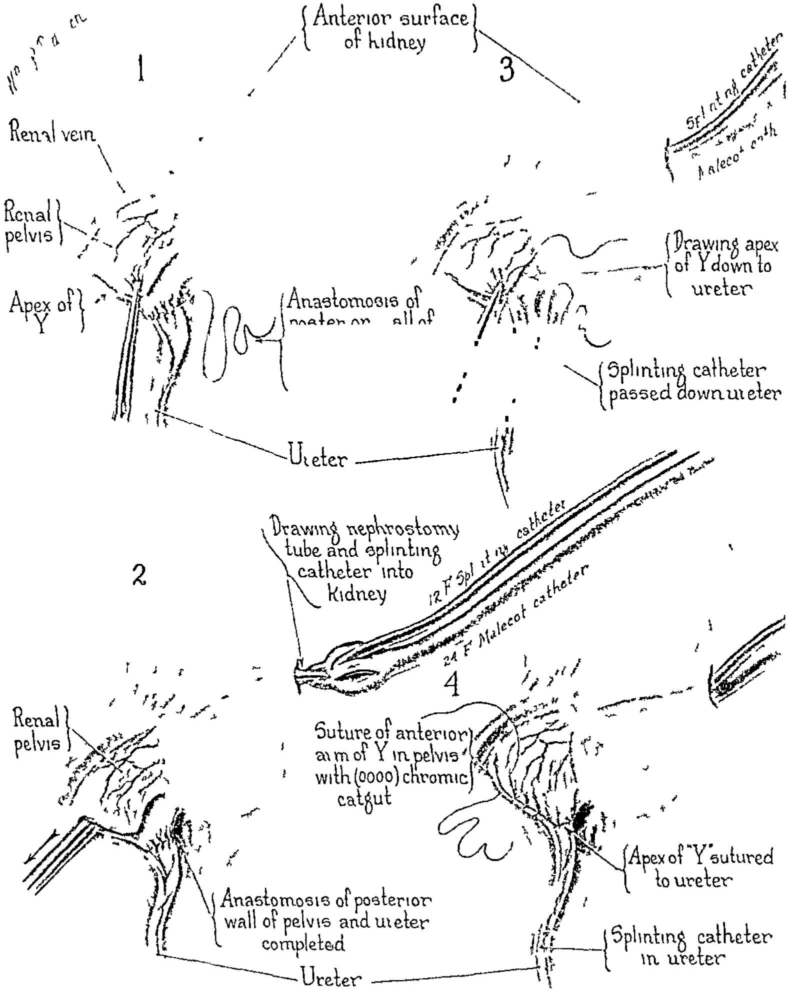
Anterior surface of kidney
1
3
Renal vein
Renal pelvis
Apex of Y
Anastomosis of posterior wall of
Splinting catheter
Malecot cath
Drawing apex of Y down to ureter
Splinting catheter passed down ureter
Ureter
Drawing nephrostomy tube and splinting catheter into kidney
12 F Splinting catheter
24 F Malecot catheter
2
4
Renal pelvis
Suture of anterior arm of Y in pelvis with (0000) chromic catgut
Apex of "Y" sutured to ureter
Anastomosis of posterior wall of pelvis and ureter completed
Splinting catheter in ureter
Ureter

Fig 12 (Plastic operation for ureteropelvic obstruction) *1* Shows anastomosis of posterior wall of pelvis and ureter with 000 chromic catgut *2* Drawing nephrostomy tube (No 24 F Malecot catheter) and splinting ureteral catheter into renal pelvis *3* Drawing apex of Y down to ureter Note splinting catheter passed down ureter *4* Suturing anterior arm of Y in pelvis (From Henline and Menning)

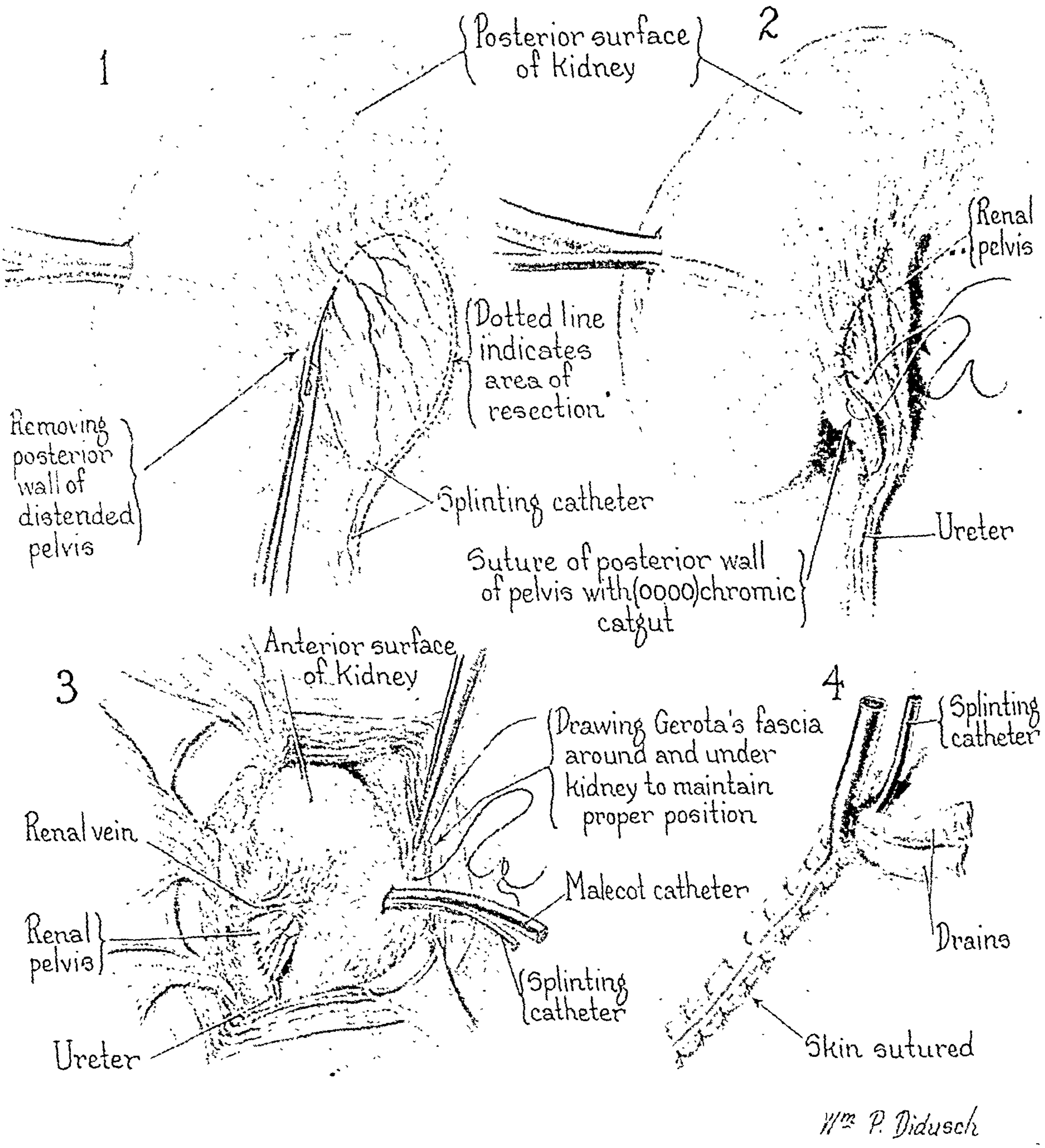
1
Posterior surface of Kidney
2
Renal pelvis
Dotted line indicates area of resection
Removing posterior wall of distended pelvis
Splinting catheter
Ureter
Suture of posterior wall of pelvis with (0000) chromic catgut
3
Anterior surface of Kidney
4
Splinting catheter
Drawing Gerota's fascia around and under kidney to maintain proper position
Renal vein
Malecot catheter
Renal pelvis
Drains
Splinting catheter
Ureter
Skin sutured
Wm P. Didusch

Fig. 13. (Plastic operation for ureteropelvic obstruction.) *1.* Resecting posterior wall of dilated pelvis. *2.* Suturing posterior wall of pelvis with No. 0000 chromic catgut after resection of redundant portion. *3.* Plastic operation completed. Nephropexy done to maintain kidney in position. *4.* Shows closure of wound, with drains, splinting catheter, and nephrostomy tube emerging. (From Henline and Menning.)

6. Removal of the obstruction, resection of the redundant portion of the renal pelvis, and plastic repair with nephrostomy drainage and ureteral splinting for at least six weeks after operation results in relief of most cases of hydronephrosis due to obstruction at the ureteropelvic junction.

RÉSUMÉ

Des opérations plastiques sur la partie corticale et sur le bassin du rein sont

décrites. La technique de la procédure de Y-plastique est expliquée, et un cas est rapporté démontrant l'efficacité de la méthode. L'auteur avance les conclusions suivantes:

1. La méthode "fat and ribbon-gut" de réparer les plaies de la partie corticale du rein a fait ses preuves et est d'une grande utilité dans les opérations plastiques sur le rein.

2. Cette méthode permet l'ablation de grands lambeaux de rein traumatisés, tout en permettant la conservation du rein.

3. Cette méthode permet l'enlèvement d'un calice nécrotique et le siège de formation répetée de calculs.

4. Cette méthode permet l'excision de kystes rénaux.

5. L'héminéphrectomie peut être accomplie avec succès. Le segment du rein conservé est suturé à la ligne d'incision par le "fat and ribbon gut method."

6. Dans les cas d'hydronéphrose due à une obstruction localisée à la jonction utéro-pelvienne, on enlèvera l'obstruction; on fera la résection de la partie redondante du bassin rénal et la réparation plastique. Un drainage d'au moins six semaines par voie néphrostomique donnent des résultats satisfaisants.

SUMARIO

Las operaciones plásticas de la corteza y de la pelvis renal son descritas, la técnica de la Y-plástica es explicada, y un caso relatado por el autor demuestra la eficiencia de este método, con las conclusiones siguientes:

1. El método de "gordo y cinta-intestino" ("fat-and-ribbon gut"), para la sutura de heridas de la corteza renal, constituye una contribución importante a nuestro armamento para las operaciones de los riñones.

2. Este método permite remover grandes porciones del riñon que han sido dañadas por trauma, pero el riñon mismo se salva.

3. Necrosis de un caliz-renal y que es el sitio de repetidas formaciones de cálculos puede ser extirpado con impunidad por este método.

4. Cistes sencillos del riñon, que dañan la parénquima intracapsular, pueden ser extirpados sin temor ninguno.

5. La heminefrectomía se efectua con todo éxito y el segmento del riñon que se deja por el método de "gordo y cinta-intestino" que cubre la linea de excisión.

6. Resección de la area de obstrucción y de la porción redundante de la pelvis renal y reparación plástica con nefrostomía y drenaje, y descanso al uréter por lo menos seis semanas después de la operación resulta en la mayoría de casos en alivio de la hidronefrosis debida a obstrucción en la juntura ureteropelvical.

Выводы

Описаны пластические операции почечной коры и лоханки, об'яснена техника «Y» пластической процедуры и дан случай, демонстрирующий эффективность этого способа. Автор приходит к следующим заключениям:

1. Способ починки ран почечной коры посредством жирово-кишечной ленты создает очень важный добавочный способ к нашему армаментарию пластических операций почки.

2. Этот способ позволяет удалить большие травматизированные части почки, сохраняя в то же время самую почку.

3. Некрозная чашечка (calyx) и очаг повторного образования камня могут быть удалены без всякого вреда.

4. Простые кисты почки, причиняющие повреждение под оболочкой, могут быть удалены без всякого страха.

5. Применение жирово-кишечной ленты для починки линии сечения позволяет успешно удалить половину почки без всякой опасности для остающегося сегмента.

6 Большинство случаев гидронефроза, причиненнаго препятствием у лохан-

но-мочеточного слияния, могут быть вылечены следующей техникой: удалением препятствия, ресекцией лишней части почечной лоханки и пластической починкой с дренажем нефростомии и шинной поддержкой мочеточника в течении, по крайней мере, шести недель после операции.

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DR. HARVEY CUSHING (1869–1939)

(Continued from page 19)

the P B B H and the Medical School there were to list for you The only example of cooperative endeavour that I think is outstanding is the pernicious anaemia work which of course grew out of Whipple's studies of anaemia and in which George Minot at the Huntington Hospital, William P. Murphy here at the Brigham, and Edwin J Cohn of the Department of Physiology at the School participated.

Still, I suppose the work here on brain tumors may be considered also to be a "cooperative endeavour" in which a group of people have been endeavouring to cover the neurological, ophthalmological, neuropathological, neurophysiological and neurosurgical aspects of intracranial tumors with more or less profit My young folks staged a celebration here the other day without my foreknowledge on the occasion of an operation at which the 2,000th intracranial tumor was surgically verified. But this was a private and not a public ceremony.

Then of course Cannon's studies of the sympathetic nervous system together with his pupils represent a cooperative endeavour though it is not an interdepartmental affair. And all said and done, I am not so sure that cooperative research is the right way to get things done. It was tried in the War without much success; for after all, everyone works on his own lines and these few things I have mentioned above, with the exception of Cannon's work, have been purely studies with a practical therapeutic point of view, and this is anathema to the medical scientist. . . .

I am delighted to know that you are going to be at Oak Bluffs again this summer and that I may look forward to having a visit with you either there or here, or perhaps an exchange visit, something we have always planned but never heretofore pulled off

I am so pleased to learn that your year's lectures are going to be published and dedicated to Popsy [W. H. Welch]. I am sure they will be A+ +

But it doesn't look to me as though your transfer to Baltimore meant that you are in any way easing up, and I shall be glad to learn that you have dropped your work to rusticate in your summer "shack" as you describe it.

Always affectionately yours,
HARVEY CUSHING

VI

Boston, June 27, 1931

Dear Fielding.

Thanks for your delightful letter about that hurriedly written paper for the Mass. Med. Society. I certainly could have done better by the "ripening time" scene which, as a matter of fact, I got from Popsy, he in turn having heard it from someone out in California; so I disclaim any responsibility for it But as you say it might have been well to have introduced it in ways that you suggest; and if I had only had you at hand so I could tap your ventricles, I would have done better by it, for you are a walking anthology and I am a poor thing in the way of quotations

Then your No. 2 about Pasteur's pupils: There was a surgeon named La Place who, I think, has joined his fathers who always boasted of being Pasteur's only American pupil, he probably never having heard of Sturgis Bigelow. And after all, I merely hit at these of the time of 1881 for not having appreciated what Sturgis Bigelow really represented Probably if you and I had been practising doctors of that time, we would not have had any clear perception of what was going on

As for the things I put in the venerable Dr. Holyoke's mouth, I am not at all sure whether they are his ideas or my own; but I was merely trying to feel my way as to what he perhaps might have thought. I *didn't* say that he had an odd dozen of children by his second wife, only two of whom survived infancy . . .

Your obedient servant,
HARVEY CUSHING

Dr. Cushing was a great teacher, pioneer and medical leader. His ability and attainments were recognized by the profession the world over, and numerous honors and distinctions were crowded upon him. He holds a notable place in the history of medicine among the pioneers in neurosurgery. His character and accomplishments inspired respect, admiration and esteem.

Vaginal Hysterectomy: Indications and Advantages*

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WHEN it is necessary or advisable to remove the uterus, three operations are available: (1) complete vaginal hysterectomy, (2) complete abdominal hysterectomy, (3) supra vaginal hysterectomy. In this age of advanced surgical technics it can be said, without fear of serious criticism, that complete hysterectomy, by either the vaginal or abdominal approach, should always be the operation of choice. Supra vaginal hysterectomy may become an operation of necessity, but never of choice. *Inability to do the complete operation should never be a consideration.* Complete mastery of a technic for the total removal of the uterus by both the vaginal and abdominal route is the minimum standard of operative skill that every gynecologist should exact of himself. Certainly an operator who resorts entirely to the supra vaginal operation is not a competent gynecic surgeon. An analogous situation exists in obstetric surgery. Occasionally it may be necessary to do the antiquated classical cesarean section, but surely the low cervical, preferably with the transverse incision of the cervix, should be the operation of choice in all clean cases.

It should not be necessary to dwell at length on the matter of superiority of complete over incomplete hysterectomy. That question is decisively and definitely settled. The danger of cancer developing in the cervical stump, the infected cervix acting as a site for focal infections and being the cause for persistent leucorrhoea and also being the cause of much postoperative disability, demands that a hysterectomy should be complete wherever possible. In years gone by when fear of stump cancer was the only argument advanced by the proponents of complete hysterectomy and the abdominal route the only method considered, an apparently valid position was held by the advocates of the incomplete operation. They held that the incidence of stump cancer did not compensate for the increased operative mortality of the complete abdominal operation over the supra-vaginal hysterectomy. That position is no longer valid as it is the experience of most competent surgeons that in comparable cases the complete operation, while admittedly slightly more difficult, has a lower mortality and morbidity rate and presents fewer postoperative complications than supra vaginal hysterectomy.

As this thesis deals with vaginal hysterectomy, we will not enter in detail into the argument as to the relative safety of the complete and incomplete abdominal hysterectomy. Suffice to report briefly the experiences of a few competent observers. Joseph V. Meigs[1] reviewing stump cancer said, "I feel sure that from now on, whenever possible, I will do a total hysterectomy." George Gray Ward,[2] "I believe the entire uterus should be removed providing it will not be a matter of undue risk to the patient.'' N. Sproat Heaney,[3] ''A trained gynecologist should be able to do a complete abdominal or vaginal hysterectomy with as much ease and familiarity as a supra-vaginal hysterectomy.'' James R. Goodall[4] called attention to the greater frequency of postoperative complications and higher morbidity in the supra-vaginal hysterectomy over the complete operation. He has changed from the incomplete to the complete operation without any regrets. Edward H. Richardson[5] stated, ''Concerning the controversy of total versus sub-total abdominal hysterectomy, I do not see why there should be any difference of opinion of the desirability of removing every diseased cervix.'' Baldwin advises panhysterectomy always, since he believes the cervix is useless. Gellhorn[6] advised routine complete hysterectomy. Smith[7] and Danforth[8] found a lower mortality and morbidity rate in the complete operation. E. VonGraff,[9] in a study of the incidence of stump cancer, favored the complete hysterectomy. Counsellor[10] favored total hysterectomy. Pease performed sub-total hysterectomy only when the complications were so extensive that the complete operation could not be done with safety. Many other authorities could be quoted endorsing the complete operation; but of course one will find surgeons who oppose the operation as a matter of choice. In the main their objections are that it is a more difficult and time consuming operation, that injury to the bladder and ureters is more frequent and that the incidence of stump cancer is overemphasized. These objections are not valid. Not only is the mortality, in the hands of competent surgeons, less in the complete abdominal over the incomplete operation, but the operative and postoperative complications are tly reduced. These fortunate results are due to the fact that the infected or potentially infected cervix is removed in complete hysterectomy.

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** From the Gynecology Departments of St. Joseph's and Northern Liberties Hospitals.

The real crux of the question of complete versus incomplete operation is the danger of stump cancer. It is impossible to chart from personal experience or available statistics the exact incidence of stump cancer. Joseph V. Meigs[11] reported three cases of stump cancer in patients upon whom he did a supra-vaginal hysterectomy. In addition he stated that in a series of 1200 cases of cancer of the cervix seen at Pondville Hospital he found 100 cancers of the cervical stump. He made the very important observation that about 10 per cent of the cervical cancers occurred in nulliparas. George Gray Ward[12] stated ''that in his clinics at Women's Hospital, New York, in 1940 we found 7 per cent (6.9) of 879 cases of cervical cancer had cancer of the stump.'' He also had nulliparas among that number. Curtis F. Burnham[13] reported that Howard Jones of the Kelly Clinic had recently reviewed 700 consecutive cases of carcinoma of the cervix. Among the number were 51 cases of carcinoma of the stump, or 7 per cent. These reports show a high incidence of stump cancer, perhaps too high. In a study just completed at Johns Hopkins Hospital Clinic, Erle Henrikson found among 940 cases of cancer of the cervix an incidence of stump cancer of 2.3 per cent and that in similar statistical reports the incidence of stump cancer ran as high as 4 per cent. Healy and Aronson[14] at Memorial Hospital studied 1000 cases of cancer of the cervix and found only 2 per cent of their cases were bona fide cancers of the stump. Many other reports could be quoted, showing the incidence of stump cancer to vary statistically anywhere from 2 to 7 per cent with the average at about 4 per cent.

Statistics available on this question are not of too much value as too many varying factors are present Personal experience varies Meigs observed one hundred cases of stump cancer, while Healy with a very large personal experience observed only about twenty cases Then again many of the reported cases undoubtedly had unrecognized cancer of the cervix at the time of the hysterectomy and therefore were not true cases of stump cancer It is important to note, however, that if in these cases the entire uterus had been removed, the early cancer of the cervix would have likely been cured in most of the cases It is not the statistical frequency of stump cancer that should determine this question What practical difference does it make whether statistics show an incidence of 2 or 7 per cent? The things to remember are, first, that the cervix is one of the most frequent sites of cancer in the body, that in spite of advanced knowledge as to treatment, either by radiation or extensive operation, it is still one of the most frequent causes of death in women past 45 years, and, secondly, that we do not have at our disposal any measure that will prevent cancer short of removing the uterus

Many reports have been published in the past extolling cauterization, conization and other methods of healing ulcers or destroying them as a prophylactic against cancer The teaching that ulceration of the cervix is a precancerous lesion is just as valid as the old idea that ulceration of the stomach was precancerous Gastro enterologists have long discarded that fallacy and we no longer see resection of the ulcer bearing area of the stomach simply to prevent the development of cancer The only safe cervix is one that is outside the body and as we cannot tell what cervix will or will not develop cancer, that statement holds for healthy as well as diseased cervices

Meigs in his 1200 cases stated that 10 per cent, or 120 cases, were in nulliparas and it is a common experience of all gynecologists to observe cancer in nulliparas and even virgins While most cancers of the cervix develop in multiparas, we are certain that when the relative number of multiparas and nulliparas living at the same age are studied, the incidence would be about the same for both groups Of course in virgin nulliparas it is impossible to say what was the condition of the cervix, as no examination was likely to have been made until the cancer developed, but it is again likely that the cervix was not diseased as in multiparas Walter Schiller has shown that when cancer of the cervix develops in an ulcerated cervix it does not develop in the ulcer, but in healthy mucous membrane adjacent to the ulceration Ward holds that cauterization or conization of the cervical canal is no safeguard against cancer, as 80 per cent of cancers develop in the portio vaginalis Waters evidently is of the same opinion, as he not only cones out the cervix, but removes the portio vaginalis with the cutting current, using a wire loop N Sproat Heaney, in doing a supravaginal hysterectomy, leaves the cervix alone, as he holds that to cauterize or cone only invites disaster or morbidity This is our experience and practice

It is our practice to always do a complete hysterectomy either by the abdominal or vaginal route except in those cases where complications are so extensive or serious as to preclude the operation In previous papers[15] we have set forth the advantage of vaginal hysterectomy over complete abdominal hysterectomy This report is based on an experience of 2427 vaginal hysterectomies with six deaths, a mortality of 0.24, or ¼ of 1 per cent. N. Sproat Heaney[16] recently reported 1056 vaginal hysterectomies under ethylene with three deaths, a mortality of approximately ¼ of 1 per cent, the same as ours. Babcock had a series of 300 cases with a zero mortality. Danforth[17] reports 266 cases with a zero mortality. Kennedy in 2000 vaginal hysterectomies (clamp method) had a mortality of 0.02 per cent. Here is an experience of 6000 vaginal hysterectomies for a variety of indications by five scattered operators, using different technics, with a maximum mortality of ¼ of 1 per cent. We doubt if there is another major surgical procedure that offers as great a margin of safety. Danforth's[18] morbidity in his 266 cases, based on the standards of the American College of Surgeons, was 9.02 per cent, a truly remarkable record, but in keeping with the experience of all vaginal surgeons.

With evidence of such a low mortality and morbidity rate we always elect to do a vaginal hysterectomy within its limitations wherever a hysterectomy is indicated. This favorable mortality and morbidity rate widens the scope of the operation so that we, in our clinic, operate for conditions which would not justify the abdominal approach. In addition to the safety of the procedure there are other factors that make the operation the more desirable method of approach. The absence of an abdominal incision with the resulting scar is a great advantage, not only from a cosmetic viewpoint; but in a broader sense this advantage is of paramount importance. Incisional hernia does not occur and complications, such as adhesions of omentum and intestines to the scar, infections and separation of the incision, are eliminated. Because of fewer immediate and late complications, convalescence is smooth and return to health is rapid. The absence of an incision makes limitation or prohibition of normal activities unnecessary and the woman can dress as she pleases. Owing to its safety, the absence of shock, its low morbidity and rapid convalescence, vaginal hysterectomy is the operation of choice in the aged and in those who for any reason are regarded as substandard surgical risks.

As the result of a long and satisfactory experience we use spinal anesthesia almost routinely, but rectal avertin or local anesthesia with sedation can be successfully used. As there is no need for extreme relaxation and as the operations are less time consuming, there is a wider field for the selection of an anesthetic and the amount required is less, this materially lessening the anesthesia risk.

When it is necessary to combine a vaginal plastic operation with removal of the uterus, vaginal approach to the problem offers many advantages over the usual plastic and section procedure. There is no reason to complicate a single and rational approach to a pelvic surgical problem by an added operation. The time consumed in changing over from a plastic to an abdominal operation with the closing of the incision adds 30 to 45 minutes to the operation time. In addition to the added time, there is the resulting confusion, which may cause a break in the technic and thus endanger the patient. When the vaginal approach alone is used, the operation moves smoothly and rapidly to its conclusion without changing the position of the patient or operator and without the confusion of redraping the patient. In using the vaginal approach it is never necessary to do a two-stage operation regardless of the age or condition of the patient If she can tolerate either the plastic or vaginal section, she can bear both procedures

The operation is more economical both for the patient and hospital The institutional saving is considerable in bed days and supplies The patient benefits in hospital costs by lessening convalescent period There is no need for special nursing care and no necessity for special medication and expensive abdominal supports or a particular type of corset Convalescence is rapid and complete, and the need for additional help in the home is of short duration The foregoing, together with these economic factors, constitute some of the advantages of the vaginal over the abdominal hysterectomy

At the expense of repetition let us emphasize the statement that there is no known satisfactory prophylaxis against the development of cancer of the cervix or body of the uterus short of complete hysterectomy While radium cures cancer, there is no reason to believe that its application for benign lesions protects the uterus from the later development of a malignancy Certainly an unbiased study of the question shows that all efforts to reduce the incidence of cervical cancer by attempting various methods to restore the ulcerated and infected cervix to a normal condition have resulted in failure We do not wish to be misunderstood as advocating wholesale removal of the uterus as a prophylaxis against cancer What we do approve of is this After a woman has reached an age when the uterus is no longer a useful organ or when the cervix is so badly diseased as to require high amputation, deep and repeated cauterizations, or extensive conization she would be better served by a vaginal hysterectomy As has been shown, the risk of the operation is practically nil and the morbidity is certainly less than in any of the outlined substitute treatments of the cervix If we had to choose between an extensive amputation of the cervix and vaginal hysterectomy, we would rather perform the latter It is a much more satisfactory procedure and technically much less difficult operation to perform

The indications for the operations were as recorded in Table I Our experience as to indications and results parallels very closely that of Heaney and Danforth Our enthusiasm for vaginal hysterectomy has not blinded us to its limitations and contraindications As a matter of fact, surgical judgment based on a large and varied experience has taught us that neither vaginal nor abdominal section has universal applications All of our patients are routinely prepared for both the abdominal and vaginal approach, and often the decision as to method is not made until the final examination while the patient is under the anesthetic Having decided on the vaginal operation, we have been fortunate enough in our series of cases to complete the operation by that route

While all our cases have been carefully selected, a study of Tables I and II will disclose that in no sense have they been hand picked, but that we have been able to use the operation for the correction of many varied pelvic lesions As one's experience grows, the scope of indications for the operation expands We are decidedly against making vaginal section a "bag of tricks" and exploiting the legerdemain of the surgeon rather than his matured judgment

Some special indications and its advantages will now be considered As in our previous communications, fibroid tumors of the uterus still remain the most frequent indication for the operation, 1627 in this series There was an era in the treatment of fibroid tumors when x-ray and later radium entered into serious competition with surgery. That era is now past. Today there is but one treatment for these neoplasma—surgery. Practically all sub-standard risks can be made safely operable by modern methods. We will not discuss again the relative merits of complete and incomplete hysterectomy in the treatment of these tumors. We hold that the weight of evidence is overwhelmingly in favor of the complete operation, that the incomplete operation should never be the operation of choice or used routinely. To assume any other position would be a step backwards in surgical progress.

We hold that within certain narrow limitations as to size of growth and inflammatory complications, vaginal hysterectomy is the operation of choice in most of these growths. Uncomplicated tumors of the size of a four-month pregnancy can be safely and readily removed by vaginal hysterectomy. In arbitrarily placing the size of the tumor at four months, it must not be understood that the size of the tumor alone offers any serious impediment to the skilled vaginal operator. Much larger tumors can be removed safely and bloodlessly by morcellation. We have removed 1627 tumors, varying in size from an orange to a five-month pregnancy, by the vaginal route with four deaths. It will be noted that 171 of these cases were associated with such complications as chocolate cysts, ovarian tumors, tubo-ovarian disease and adhesions.

The next most frequent indication for vaginal hysterectomy in our series was prolapse of the uterus associated with vaginal prolapse. We have lived through an age in the treatment of prolapse, beginning with abdominal or vaginal fixation of the uterus associated with vaginal plastics; Goffe operation; Alexandroff operation; the Watkins interposition; Fothergill, etc. The Watkins interposition operation was one of the great advances in gynecic surgery of this century and for a time seemed to be the answer to a problem that had baffled surgeons for generations. It cured the prolapse of the uterus and the associated cystocele in the majority of cases; but with its universal acceptance, experience showed too many failures and many serious postoperative complications. It was not to be performed in the child-bearing woman unless she was sterilized, on accouunt of the serious birth complications resulting from it. As was to be expected, many patients developed cancer of the uterus and the treatment of the cancer either by radium or hysterectomy was made more difficult. Mayo, Heaney and Goffe, among others, realized that the uterus was not necessary to the success of the operation. Mayo and Heaney removed the uterus and transplanted the united broad ligaments between the bladder and vagina. Goffe previously in his No. 2 operation removed the uterus, united the broad ligaments and suspended the bladder on the anterior face of the united broad ligaments. Some surgeons are now returning to a modified Goffe technic.

We have been performing two types of operations in which the results are so near perfect that in our clinic we rely entirely on the Fothergill in the preclimateric cases or where it is advisable to preserve fecundity or menstruation. We use the Mayo-Heaney technic in all other cases, except occasionally we do a Le Fort in the aged or in those cases where an ill-advised and poorly executed complete abdominal hysterectomy had been performed. We have performed vaginal hysterectomy with interposition of the united broad ligaments with satisfactory results in 376 cases with two deaths.

The third most frequent indication

for the operation was hyperplastic or fibrotic uteri with excessive bleeding in or about the menopause. In these cases we formerly used radium and at times x-ray: but we now have discarded radiation treatment and resort entirely to vaginal hysterectomy. We have rejected radiation therapy for the following reasons: (1) We were never able to treat, satisfactorily, menopausal symptoms caused by irradiation. (2) Radium gives no protection against the subsequent development of cancer of the uterus. (3) Irradiation in a small percentage of cases produces pathology in tissues and organs adjacent to the uterus. In our experience the normal menopause is seldom a major problem; but when the menopause is brought on suddenly, either by surgery or irradiation, it frequently is a major problem defying any form of hormonal therapy. In the preclimateric cases the ovaries are left when the uterus is removed and the patient can enter an accelerated, but normal, menopause.

Many surgeons have reported cases of carcinoma of the uterus, particularly of the fundus, subsequent to the application of radium in the treatment of benign lesions of the uterus. Some have even raised the question as to the possibility of the radium being the cause of the cancer. This is too complicated a problem to discuss in a thesis of this character. Lewis C. Sheffey has recently published a masterly study of this problem and his paper, together with the discussion by leading members of the profession, can be found in *Transactions of the American Gynecological Society*, 1942, page 288. We have never experienced the extensive rectal, intestinal and bladder injuries reported by Aldrich[19] following the treatment of cancer of the uterus with radium, from the much smaller dosage used in treatment of benign lesions of the uterus. We, however, have frequently experienced an unrecognized latent infection of the pelvis stimulated into activity. We also have noted severe irritation of the rectum and not infrequently low grade ulceration of the bladder. We did vaginal hysterectomy in 322 cases with no deaths. By vaginal hysterectomy we have not endangered our patients, have avoided unpleasant sequelae and protected them against the possible development of cancer.

The fourth most frequent indication for the opertaion was extensively lacerated, ulcerated and infected cervices. These were the type of cases where we formerly did a high amputation by the Sturmdorff or Kocher technic, or where we did an extensive conization with the Bovie current by the Hyams technic, or treated conservatively by repeated cauterization. We had sixty-three patients in this category with no fatalities and with much less morbidity than with former conservative measures. As previously stated, amputuation, conization and cauterization of the cervix do not prevent cancer. To those who believe that diseased cervices predispose to cancer there can be no valid objection to the total removal of the uterus. It is our experience that it is much simpler to do a vaginal hysterectomy than a high amputation of the cervix.

In the time allotted this discussion one cannot do justice to an adequate consideration of the place of vaginal hysterectomy in the treatment of cancer of the cervix. Those familiar with the Vienna School and the work of Schauta know it has an important though controversial place. It will be noted that we had nine cases of cancer of the cervix associated with uterine prolapse. These were very early involvements and were only diagnosed by the routine pathologic studies to which all tissue is submitted when removed. In the definite cancers of the cervix it is our practice to rely entirely on irradiation treatment.

The treatment of choice for cancer of the body of the uterus has not as yet been determined by us. We are keenly aware of the treatment by large doses of radium, but we are not ready to discard total hysterectomy. In our series, twenty-two uteri were removed by the vaginal route. The frequent and serious injury to the rectum, bladder and intestines after large doses of radium in the treatment of fundus carcinoma is a deterrent to its universal use.

There is one misunderstanding about vaginal hysterectomy that needs clarification. It is frequently stated that the operation is only applicable to multiparas and in patients where the cervix is at, or can be brought down by traction to the vulvo-vaginal orifice. This view is based on a misconception of the anatomy of the pelvis and a lack of knowledge of the technics of the operation. In our series, eighty-six were nulliparas and twenty-six were virgins. In how many the cervix was at its normal height we did not record, as that factor never entered into our decision to do the operation. In normal adult virgins and nulliparas the vagina is a capacious and dilatable organ. In virgins it has been necessary in some cases to cut the hymen and do an episiotomy, and it also has been necessary to do the latter operation in a few cases when a previous perineal repair has been performed. We have never resorted to a Schuchart incision to gain room. We feel that operation should never be done, except for a Schauta operation, and if the surgeon deems it necessary he had better employ the abdominal approach. No matter how high the cervix is situated, it comes immediately into the field of operation as soon as the utero-sacral and cardinal ligaments are ligated and severed.

In our technic, we employ certain steps to facilitate the removal of the uterus by the vaginal route in all types of cases. As soon as the cul-de-sacs are opened, we control bleeding by uniting the peritoneum to the vaginal mucosa and from this step to its conclusion, the operation is practically bloodless. We do not use clamps in any stage of the operation. Clamped tissues are likely to slough, and clamps take up room and are always in the way. We do not antevert or retrovert the body of the uterus into the vagina. To do so crowds the field of operation and what is more important, such a procedure carries the infected cervix up into the pelvic cavity. We ligate and cut the utero-sacral, cardinal ligaments and uterine arteries on both sides. This enables us to bring the cervix down to or through the vulvo-vaginal orifice. The round ligament, tube and ovary on one or the other side of the uterus are ligated and cut. When one side of the uterus is freed, it is rotated laterally and the tube, ovary and round ligament of the opposite side is ligated and cut and the uterus delivered, the cervix first and the fundus last.

We have presented this and previous reports in the hope that they will stimulate greater interest and more general employment of vaginal hysterectomy.

SUMMARY

Complete vaginal hysterectomy is recommended as the operation of choice in removal of the uterus, the danger to be feared from incomplete operation being stump cancer. In a series of 2427 vaginal hysterectomies, six cases of mortality occurred, a percentage of 1/4 of 1 per cent. Case reports of these six instances are presented.

The operation was generally performed under spinal anesthesia, although rectal avertin and local anesthesia with sedation were successfully used One of the many advantages of this method is a lessened convalescent period Indications for the operation are fibroid tumors of the uterus, prolapse of the uterus associated with vaginal prolapse, hyperplastic or fibrotic uteri with excessive bleeding in or about the menopause or extensively lacerated, ulcerated and infected cervices The operation was successfully performed on 86 nulliparas and 26 virgins

TABLE I

INDICATIONS	
Fibromyoma of the uterus	1456
Fibromyoma of the uterus fixed to anterior abdominal wall by previous operation	20
Fibromyoma of the uterus and bilateral chocolate cysts of ovaries	12
Fibromyoma of the uterus and ovarian tumors	76
Fibromyoma of the uterus and chronic bilateral tubo ovarian disease	63
Hyperplastic or fibrotic uteri with excessive bleeding in or about the menopause	322
Prolapse of uterus	359
Prolapse of uterus with carcinoma of cervix	9
Prolapse of uterus after an interposition operation	8
Badly lacerated diseased cervix in or about the menopause	63
Adenomyoma of the uterus	8
Chorionepithelioma of the uterus	1
Carcinoma of body of uterus	22
	2427

CASE REPORT

Case I Patient operated on for fibromyoma size of a three month pregnant uterus causing menorrhagia and metrorrhagia She also complained of urinary incontinence due to a urethrocele which was repaired at the same time Convalescence was uneventful until the fifth day when nausea vomiting and abdominal distention developed Temperature rose to 103 2 F, pulse 120, peristalsis was sluggish A high compound enema and an ampule of Pitressin relieved the distention Saline and glucose were given intravenously this was followed by a violent chill, temperature rose to 105 4 F pulse became imperceptible A medical consultant was called and in spite of heroic cardiac and vasomotor stimulation, patient continued to fail and died the same day It was concluded that she died from anaphylactic shock Upon examination, the intravenous apparatus was found to be contaminated, numerous old blood clots were found in the tubing

Case II Patient suffering from essential hypertension was operated on for multiple fibromyoma and large rectocele The urine was normal before operation After operation the patient suffered complete urinary suppression Taking into consideration the possibility of having ligated both ureters a cystoscopic was performed twenty four hours after operation and No 5 catheters passed up both ureters to pelvis of kidneys, but not a drop of urine was obtained Blood transfusion and everything possible to stimulate urinary excretion were undertaken without success On the third day, she became comatose, later on developed a consolidation at the base of the left lung and died on the ninth day

TABLE II

ADDITIONAL OPERATIVE PROCEDURES	
Removal of one or both tubes	268
Removal of one or both ovaries	279
Plastic operation on urethra for incontinence	116
Posterior colpoperineorrhaphy	1246
Repair of complete perineal tear	7
Preliminary episiotomy	94
Removal of Bartholin cyst	11
Repair of inguinal hernia	18
Repair of umbilical hernia	12
Appendectomy	18

Case III Patient operated on for a multiple fibromyoma the size of a four month pregnant uterus, requiring morcellation. Her recovery was uneventful. Temperature reached normal on the third day and remained so. She was permitted out of bed on the tenth day and was taken suddenly with severe pain in the chest, dyspnea and cyanosis. She was immediately returned to bed and died. Upon autopsy a pulmonary embolus was found.

Case IV. Patient operated on for fibromyoma and left ovarian cyst. Convalescence was uneventful. Patient was dressed to go home on the twelfth day, went to the lavatory, collapsed and died before any medical aid could reach her. Upon autopsy a massive pulmonary embolus was found.

Case V. Patient operated on for uterine prolapse, urethrocele, cystocele and high rectocele. At operation there was encountered bilateral endometriosis of both ovaries, which were densely adherent to rectum, sigmoid and pelvic structures. The tubes and ovaries were removed with uterus. Her convalescence was stormy from the very beginning. On the third day, she began to show signs of peritonitis, which became progressively worse and she died on the fifth day.

Case VI. Patient operated on for complete procidentia and large rectocele. On the fourth day, the temperature and pulse became elevated. She complained of severe pain in the perineum, which upon examination was found badly infected and suppurating. The patient could not void and was catheterized at regular intervals. She began to complain of severe pain in her bladder, the urine became purulent and upon examination mixed organisms were found. In spite of intravenous sodium sulfathiazole, blood transfusions and bladder and vaginal irrigations, the temperature became more septic, casts appeared in the urine, urine output diminished and she died on the ninth day.

RÉSUMÉ

L'opération de choix pour l'ablation de l'utérus est l'hystérectomie vaginale complète. Les opérations incomplètes entraînent le danger d'un cancer du moignon. Dans une série de 2427 hystérectomies vaginales, il y eut six décès, une mortalité de ¼ d'un pour cent. Ces six cas sont rapportés en détail.

Les opérations en général furent faites sous anesthésie rachidienne; dans quelques cas, on eut recours à l'avértine par voie rectale aidé d'anésthesie locale. Cette méthode abrège la durée de la convalescence. L'opération est indiquée dans les cas de fibromes de l'utérus, de prolapsus de l'utérus compliqué, de prolapse du vagin; dans les cas d'utérus hyperplastiques et fibrotiques accompagnés d'hémorrhagie excessive ou proches de ou pendant la ménopause, dans les cas d'ulcération et d'infection du col de l'utérus. On opéra avec succès 86 nullipares et 26 vièrges.

SUMARIO

El autor recomienda la histerectomía vaginal total, como la operación de elección para la extirpación, el único peligro que debe ser precavido es cáncer del muñón. En una serie de 2427 casos de histerectomia vaginal, 6 casos de mortalidad ocurrieron, esto es ¼ de 1 por ciento. Los seis casos de mortalidad son relatados por el autor.

La operación fue, generalmente, ejecutada con la anestesia-raquidea, aún cuando la anestesia-rectal-avertin, la anestesia local y sedativos fueron empleados con éxito.

Este método tiene la ventaja de acortar el período de convalecencia. Indicaciones para la operación son tumores fibroides del útero, prolapso-uterino, asociado con prolapso de las paredes vaginales, hiperplasia o fibrode-uterino con hemorragia excesiva durante o en proximidad de la menopausia y laceraciones extensivas, ulceraciones e infecciones del cuello uterino. La operación fue ejecutado con éxito en 86 multiparas y en 26 virgenes.

Выводы

При удалении матки рекомендуется тотальная влагалищная истерэктомия, так как при частичном удалении всегда существует возможность рака шейки Из 2427 случаев влагалищной истерэктомии было шесть случаев, т е 0 25%, смертности Даны истории болезни этих шести случаев

Операция была обыкновенно произведена при спинальной анэстезии, хотя прямокишечная инфильтрация авертином совместно с местной анэстезией и общими успокаивательными средствами также была успешно применена Одним преимуществом этой методы является сокращение периода выздоровления Показаниями на операцию являются фиброма матки, пролапс матки и влагалища, гиперпластическая или фиброзная матка при чрезмерном кровотечении во время климактерии и значительные разрывы, язвы и заражение шейки Операция была *успешно произведена на 86 нулипарных* и 26 девственных пациенток

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SIR BENJAMIN COLLINS BRODIE

(Continued from page 36)

What manner of man was this who basked in the light of medical eminence during most of the first half of the nineteenth century? Small, slight in stature, he had keen grey eyes and a mobile and sensitive mouth. His movements were vigorous and brusque, his manner, abrupt. True kindness and sympathy were his in full measure, as may be seen in the lines he penned to an almost unknown student: "I hear you are ill. . . . No one will take better care of you than I; come to my country house till you are well." And the student spent almost two months with him. Aided all his life by influential friends and family connections, Brodie had dignity, grace and tactful self-effacement, which went far toward making him the acknowledged Nestor of the medical profession in London for 30 years.

Brodie was far from confining his interests to his own profession. First of all, he loved noble literature. He was a student of physiology and the experimental investigation connected with it. He protested against the importation of religion into scientific questions. Although pointing out difficulties in Darwin's teachings, he accepted the principle of evolution. He stressed the importance of imagination and its training by education. Brodie believed that the mental faculties of men and animals are similar in kind, but differ in degree. The acquisition of knowledge is essential. It is a means of exercising and developing the intellectual faculties. This should be done in the traditional way by the study of languages. In other words, the end of study is not the acquisition of facts, but discipline of soul and mental faculties. A true aristocrat, Brodie was convinced that the laboring class should be given only a rudimentary education.

Brodie practiced what he preached. In regard to surgical note-taking he said: "You should investigate cases for yourselves; you should converse on them with each other; you should take written

(Continued on page 77)

The Unstable Spine: Discogenetic Syndrome Treatment with Self-Locking Prop Bone Graft*

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THE multiplicity of therapeutic measures advocated for the relief of low back pain bears witness to the fact that there is no standard acceptable treatment and no unanimity of opinion concerning its etiology or cure.

Internists prescribe salicylates; dentists remove teeth; nose and throat specialists remove tonsils; chiropractors twist the spine; physical therapists apply heat and massage and improve the posture; surgeons remove the appendix; gynecologists remove pelvic organs; proctologists take out hemorrhoids; urologists massage the prostate; orthopedists apply casts and braces, others divide fascia, do hamstring operations, stretch the limbs under anesthesia, massage or section the pyriformis muscle, inject tender spots with novocaine and fuse the spine. Many other procedures are recommended. Their enumeration only adds to the confusion of treatment of the lame back.

Goldthwait,[21] an orthopedic surgeon, first called attention to herniation of the nucleus pulposus as a cause of low back pain. During the past decade enthusiasm for removing this portion of the anatomy has become increasingly popular.

Some enthusiasts have gone so far as to say that the only justification necessary for "disc" operation is a history of recurring attacks of low back pain with or without radiating pain into one or both lower extremities. If x-ray shows a thinned out disc in these cases, then removal of the disc or discs should be performed.

Various surgeons have reported brilliant results. But already the field seems to be overworked. Discouraged, disabled and weary patients are being seen who are not relieved, and some have been made worse following disc operations. The problem has not been solved, or else many patients are being operated on for "discs" when they should have received some other type of treatment.

The author performed his first "disc operation" eight years ago. Since then he has followed the problem with a great deal of interest, trying to select cases very carefully. Approximately one hundred cases have been treated by surgery. Many of these have had the combined operation of disc removal and spinal fusion. In addition to his own cases, the author has observed a goodly number of patients treated elsewhere.

In seeking a solution to the problem and an explanation for the failures and recurrences, a number of questions presented themselves. First of all, why is it that so many cases of back pain can be relieved by so many different types of treatment? It is well known that in many clinics most back cases are treated by a particular method which is decidedly different from the method used in some other clinic. The results obtained by either method must be satisfactory

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* Presented at the Ninth National Assembly of the International College of Surgeons held in Philadelphia, Pa., Oct. 3–5, 1944.

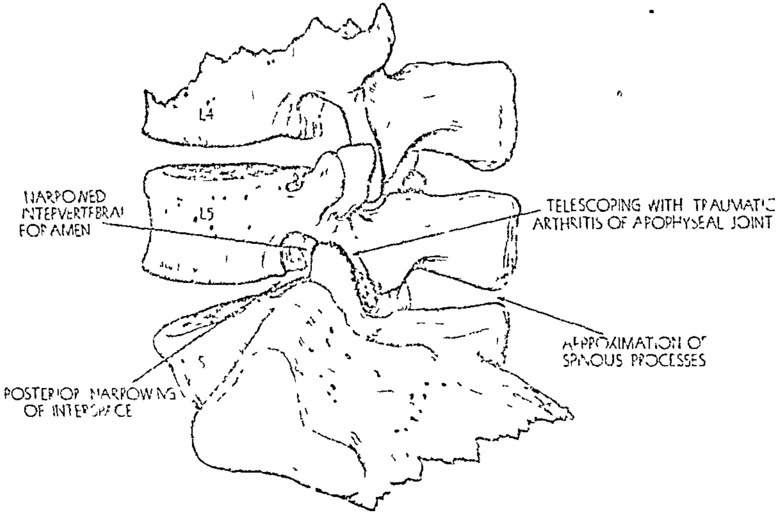
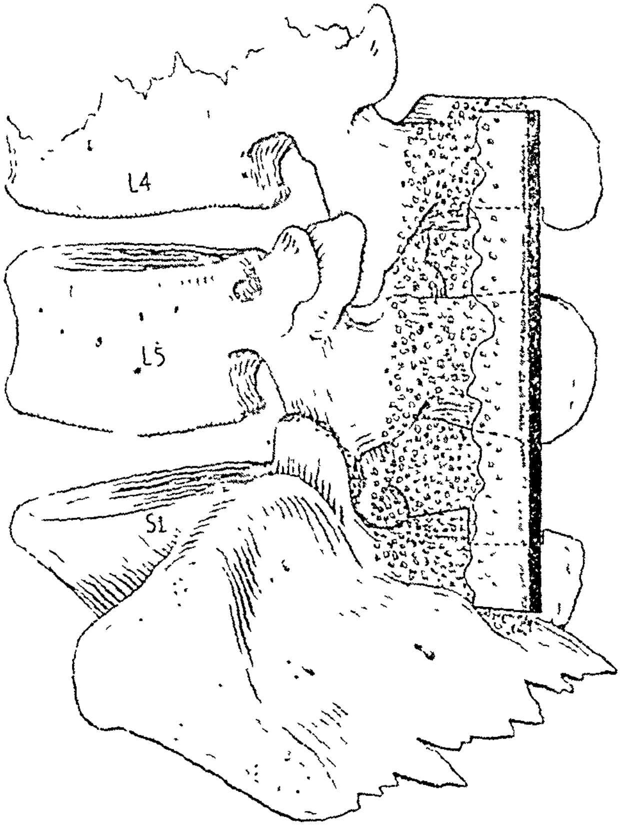

L4
L5
S
NARROWED INTERVERTEBRAL FORAMEN
TELESCOPING WITH TRAUMATIC ARTHRITIS OF APOPHYSEAL JOINT
APPROXIMATION OF SPINOUS PROCESSES
POSTERIOR NARROWING OF INTERSPACE

Fig 1 The findings illustrated represent pathology which occurs in the unstable spine with discogenic syndrome There is collapse or telescoping of the vertebrae with closer approximation of the bony structures Degenerative and arthritic changes take place in the apophyseal joints, the intervertebral space becomes narrowed and the intervertebral foramens are constricted There are also intraspinal protrusions of soft tissue into the canal

or else the method would be abandoned. In certain clinics casts are used almost routinely. In other clinics they are rarely ever used. In some clinics spinal fusions are frequent. In others they are rare. In some clinics it is believed that the intervertebral disc should be removed in almost all cases. In other clinics it is believed that almost all cases can be treated conservatively, based on the hypothesis that there must be some abstruse common factor that was applied in all of the various types of therapies. If the basic fundamental of each type of treatment could be understood, then it might be possible to plan a type of treatment which would embody all principles and would cure the unusual and difficult cases that were not being permanently relieved by any single method, whether conservative or radical.

Why is it that frequently a patient is relieved following a disc operation, yet little or no protrusion is found and there is no demonstrable nerve root pressure? How can a "concealed disc" cause nerve root irritation and produce pain? Why is it that almost all cases after disc surgery are expected to have a "weak back"? Why is it that so many of these patients have recurrence with severe symptoms? Some say it is because all of the disc was not removed or that additional discs should be removed. Some say that 80 per cent of disc lesions are multiple.

That herniation of the nucleus pulposus is a clinical entity, there can be no doubt. By x-rays, a good history and a careful physical and neurological examination, its location can be accurately determined. Visualization of the spinal canal is not considered necessary.



NORMAL RELATIONSHIP OF STRUCTURES RESTORED WITH PROP BONE GRAFT

Fig. 2. By means of a self-locking prop bone graft the telescoped vertebrae are held in normal position after having been elevated. Hyperextension of the spine is corrected, motion in painful apophyseal joints is eliminated and nerve root pressure is relieved. The bone graft, reinforced with medullary bone, immobilizes, gives massive support and permanent fixation in the corrected position is assured.

Anyone who has ever seen a large protrusian removed can have no question that nerve root pressure was present and that surgery was required for its removal. The patient's relief from pain is frequently dramatic.

In attempting to approach the root of the problem many things must be considered. That disease, metabolic disturbances, poor posture, malnutrition, stress and strain of vigorous exercise or injury can bring about destructive or degenerative changes in any part of the body, there can be no doubt.

In man's phylogenetic development there have been morphological changes in the skeleton due to processes of evolution. One of these changes occurs in the low lumbar spine and is due to man's evolution from the horizontal to the erect posture. As yet, the protective mechanism has not become perfect and this portion of the body is therefore weak.

Through various influencing factors, as enumerated above, the spine may become weak and unstable. The most vulnerable location is at the lumbosacral junction.

When destructive or degenerative changes take place, there is relaxation of the supporting ligaments. The intervertebral disc is compressed or loses its turgor and eventually it becomes thinned out. Increased strain is thrown on the apophyseal joints, which in turn become narrowed, traumatic arthritis finally developing in these joints. The spinous processes approach each other and the interspinous ligament is torn or is absorbed. The normal lumbar lordosis is increased. The posterior longitudinal ligament relaxes and bulges toward the spinal canal. It may tear and allow protrusion of the nucleus pulposus. The ligamentum flavum is crushed, it becomes fibrosed and thickened and may prolapse forward into the canal. Most important of all, the intervertebral foramen is narrowed and the corresponding nerve root at that location may be constricted or it may be compressed by swelling, by the nucleus pulposus, by the ligamentum flavum, by callus or hypertrophic new bone formation about the apophyseal joints. There is traumatic arthritis of the apophyseal joints *and motion of their articular facets* is therefore painful. Compression at the fifth lumbar interspace occurs frequently because of the fact that its intervertebral foramen are smaller and its nerve roots are larger than at any other location.

These changes are familiar to all of us and if the conception of removing pressure on the nerve roots and articular facets is correct it is easy to understand that rest, supports, fasciotomies or any treatment that improves posture and relieves strain will in many cases afford relief.

Spinal fusion will relieve strain by preventing motions in the painful arthritic joints. If at the time of fusion a flexion body cast is used, or the spine is kept straight on a boarded mattress until fusion takes place, nerve root pressure may be relieved. On the other hand, if correct posture is not maintained, or if the patient becomes ambulatory and bears weight too soon, and if the spine goes into further extension during the process of fusion, there will be nerve root pressure or irritation. This explains the cases that have recurrence of pain and disability following spinal fusions.

Removal of a large herniated nucleus pulposus will undoubtedly remove pressure and will relieve pain, but will the relief be permanent? How may one explain the relief of pain that follows the removal of a small nucleus fragment or a "concealed disc"? Is it due to removing during exposure a thickened and prolapsed ligamentum flavum which was also causing pressure? In addition, a painful interspinous ligament, painful soft tissue about the articular facet, or a part of the facet itself may have been removed. Furthermore, these patients spend a period of recumbency in bed. *Usually they are taught to improve their*

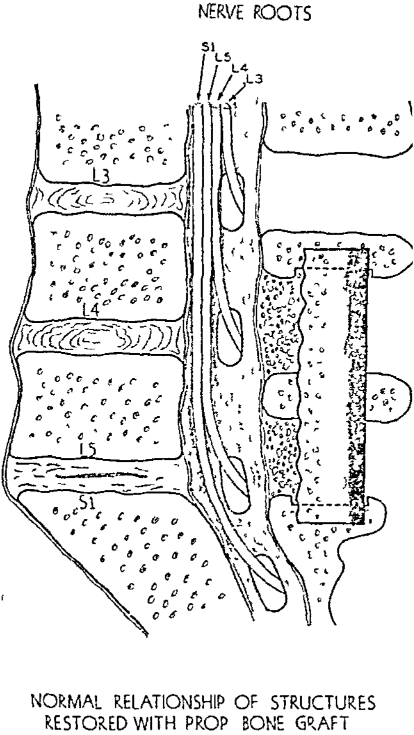
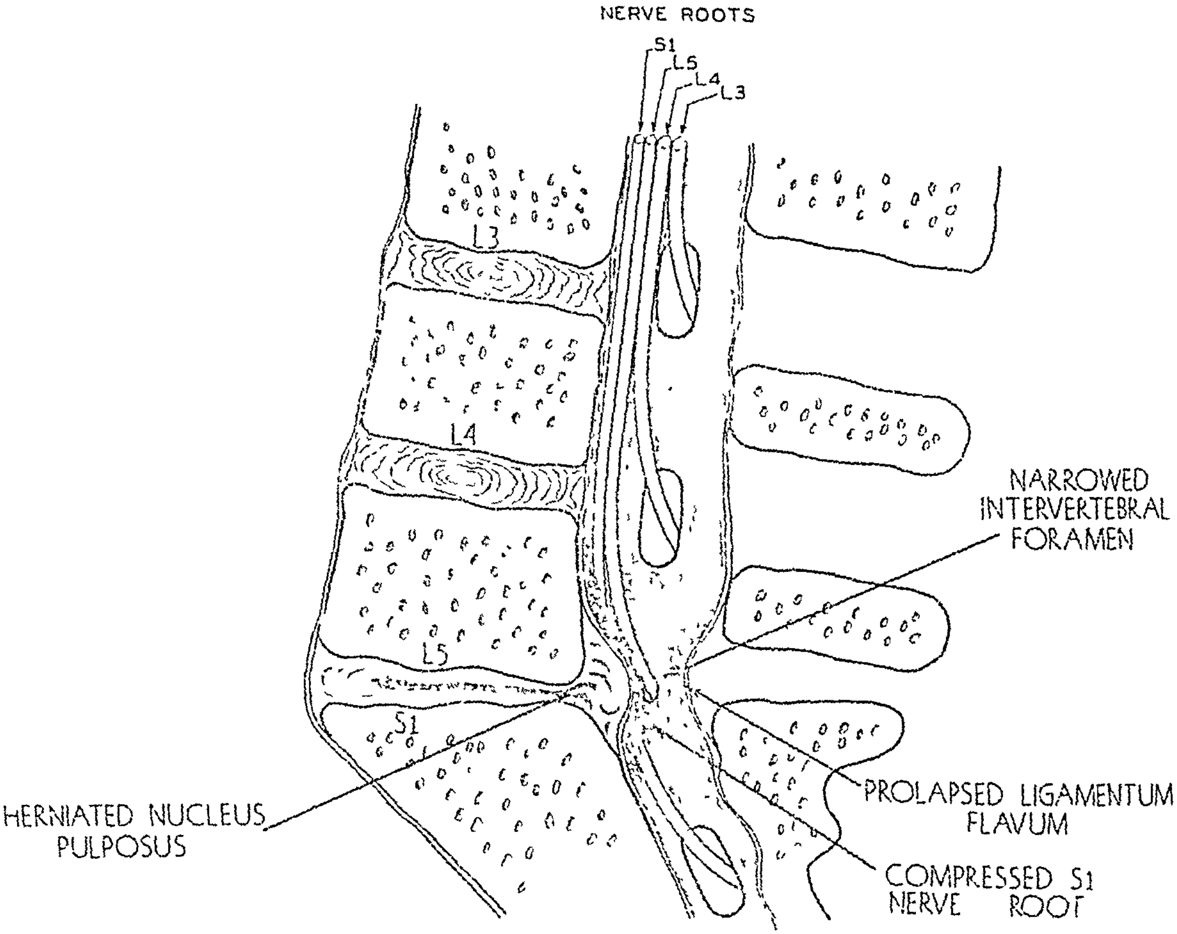

NERVE ROOTS
S1
L5
L4
L3
L3
L4
L5
S1
NORMAL RELATIONSHIP OF STRUCTURES RESTORED WITH PROP BONE GRAFT

Fig. 3 This tracing schematically illustrates a sagittal section of the spine. The intervertebral space at L5 has been narrowed, the posterior longitudinal ligament is relaxed or torn, there is protrusion of the nucleus pulposus into the spinal canal The ligamentum flavum is prolapsed forward into the canal and the fifth lumbar intervertebral foramen has been narrowed The combination of these three factors produces nerve root constriction with radicular neuritis of the first sacral, and to a lesser extent, of the fifth lumbar nerve root


NERVE ROOTS
S1
L5
L4
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L3
L4
L5
S1
NARROWED INTERVERTEBRAL FORAMEN
PROLAPSED LIGAMENTUM FLAVUM
COMPRESSED S1 NERVE ROOT
HERNIATED NUCLEUS PULPOSUS

Fig. 4. The compressed structures illustrated in Fig. 3 have been relieved. The nucleus pulposus has been removed, the posterior longitudinal ligament is tight. The ligamentum flavum on the affected side has been removed, the one on the opposite side has been drawn taut and the normal size of the intervertebral foramen has been restored. The prop bone graft elevates the bony structures and holds them permanently in position, thus reducing the likelihood of recurrence of symptoms.

posture and usually they are fitted with a low back support which tends to straighten the lumbar spine. A still further adjuvant to removal of a small or concealed disc is that the disc may have been fairly well curretted and there may be some degree of fibrous ankylosis between the vertebrae bodies which helps to stabilize the unstable spine and diminish pain in the apophyseal joints.

Disc operations admittedly are destructive procedures. While the immediate results are gratifying (often surprisingly so), are the results permanent? Has there been a sufficiently large series of cases studied with an accurate follow up over a sufficiently long period of years? The author is inclined to believe that most reports of end results have been too recent after operation to be conclusive.

What is to prevent further telescoping of the vertebrae with further narrowing of the intervertebral foramen and recurrence of nerve root pressure after the usual disc operation? Especially may this be true when a large part of the disc has been removed by curettage. May not the patient eventually be worse because of the operation than he was before it was done?

Should we not properly consider the "slipped disc" as secondary and incidental to the real pathology which is increased lumbar lordosis with mechanical instability of the spine, arthritis of its joints and nerve root irritation due to pressure and altered body mechanics? If this then be true, treatment logically should be directed toward the source of the trouble and not limited to one part of the syndrome that is causing immediate symptoms.

Most cases should, and the author believes *can* be relieved by conservative measures as previously outlined. Certainly a reasonable period of conservative treatment should be tried in all cases. In the difficult and intractable cases surgery is necessary. Fasciotomies and minor surgical procedures should be performed when indicated.

For treatment of the severe cases an operation has been devised that is primarily intended to restore the altered body mechanics and to permanently maintain its normal relationship so that recurrence of symptoms does not take place. This type of treatment is constructive and not destructive in nature.

Breck in 1943 reported a similar but less extensive procedure. In his operation the spinous processes of two vertebrae are separated by a small mortise bone graft. We have done this operation, reinforcing the graft with medullary bone, on several occasions. It is believed that it is an advantage to use a

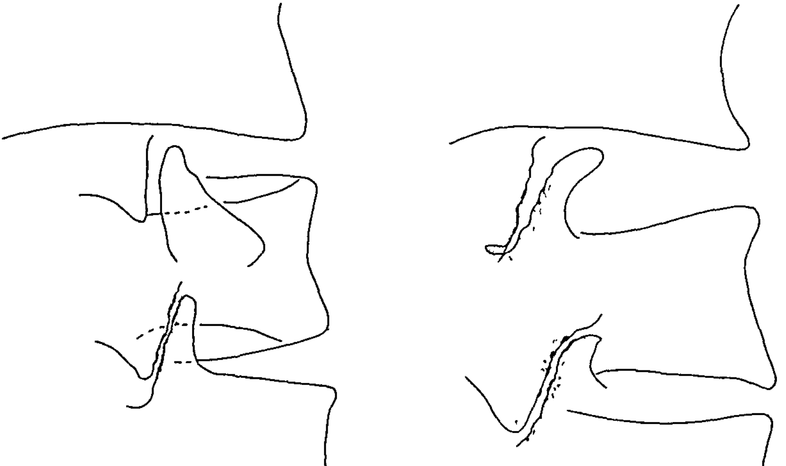

Fig 5. X ray tracings which reveal prolapse of the apophyseal joints with degenerative and hypertrophic arthritic changes Motion of such joints causes pain

larger, heavier graft which separates the processes widely. In addition, we reinforce this graft with medullary bone and immobilize three or four instead of two vertebrae.

Bosworth in 1942 described his "clothespin" graft for use in treating laminal defects and cases of spondylolisthesis. He referred to a similar graft reported by Dr. Alexander Gibson of Winnipeg, Canada. The basic principles of both of their grafts are similar to the one described by the author and no claim is being made to priority. The author did not know about Bosworth's or Gibson's work before writing this paper. Similar methods of grafting may have been previously described but none were found in literature available to the author at the present time.

OPERATIVE TECHNIC

The operation is done under low spinal block anesthesia and it is done in two phases. The first phase is performed with the patient lying supine on the table with pillows under the pelvis. The lumbosacral region is exposed through a vertical incision over the spinous processes. At the same time the left leg is flexed at the knee and a second operating team removes the bone graft from the upper end of the tibia. The spine is exposed by subperiosteal dissection and it is tested for instability by grasping the spinous processes with heavy forceps. Usually excessive motion at the involved area can be detected. Sometimes the amount of motion is surprising. Both sides of the laminae are exposed by hand with a special, very sharp, flat chisel. Mallet blows are thus eliminated. A thin layer of bone is curled outwards so that raw bone is exposed. Bleeding is minimal. The interspinous ligaments are removed and the proposed area for grafting is freshened in preparation for the bone graft.

By this time a graft of approximately four inches long has been removed from the leg. A small handful of medullary bone also has been removed from the upper end of the tibia with a curette and the incision in the leg has been closed. The patient is now turned on his left side and the spine is flexed by drawing the knees and shoulders towards each other. It is remarkable to see how widely the spinous processes have now become separated. The base of the interspinous ligament is grasped with forceps. The center of the ligamentum flavum is incised and this structure is removed with laminae dissectors stripping it outward to the apophyseal joint. With the spine acutely flexed it is found that the canal has been exposed in a space between the laminae approximately the size of the end of one's thumb. This is abundant space for exploration and it is not necessary to remove any bone. Special laminae spreaders have been made but these are not usually necessary.

Removal of the interspinous ligament greatly facilitates exposure. The dura and nerve root is retracted. If a herniated nucleus pulposus is found, it is removed and the disc is explored for loose fragments with polyp forceps or a curette. No attempt is made to curette away firm disc tissue. If no free nuclear material is found in the canal, the disc is not explored unless there is a rent in the posterior longitudinal ligament. A second or third intervertebral space may be explored if the symptoms are questionable.

The coagulating current and a special suction tip should be available during the operation but usually these are not necessary. Measurements are now made with calipers and a flexible ruler.

The piece of bone removed from the tibia should be thick and heavy, with all of its cancellous bone attached It should be fully three fourths of an inch wide With the motor saw, it is cut to proper length With twin saws and a burr on the Luck saw, a notch one half inch deep and three sixteenths of an inch wide is quickly cut in either end With the burr or a special router an oblong slot is cut in the center of the graft to slip over the intermediary spinous process The notches and the slot are made with minute accuracy in accordance with the previously recorded measurements The graft is a mortise which will lock together three or more of the spinous processes The upper and lower spinous processes are undercut with a rongeur to receive and lock the graft in place If prepared properly the graft should fit accurately

To place it in position it is necessary to forcibly flex the spine by bringing the knees and shoulders closer together After the graft has been forced over the intermediary spinous process and into the undercuts of the processes at either end, releasing of the acutely flexed body snaps the graft in position where it is locked firmly and cannot be dislodged By this means the spine is held permanently in the flexed position Exaggerated lordosis has been corrected Between the spinous processes, underneath the graft on the unexplored side, and around the ends of the graft, bone chips and medullary bone are packed until the entire space is filled Sulfanilimide powder is dusted into the wounds before closure The patient is returned to bed with no external support

RATIONALE OF OPERATION

It is known that compression fractures of the vertebrae are reduced by extension of the spine The anterior longitudinal ligaments are strong and on being stretched they pull the body of the vertebrae back into its normal position It is known that in all "lame back cases" with nerve root irritation there is a "flat back" The normal lumbar lordosis is obliterated and the patient holds the back flexed to splint the spine and to relieve irritation of the apophyseal joints and the nerve roots If the anterior longitudinal ligament, when made taut, restores the continuity of the vertebral bodies in fractures, is it not reasonable that by tautening the posterior longitudinal ligament, we can restore the continuity of the intervertebral disc? If a patient flexes his spine with muscle spasm to relieve low back and radiating pain, is it not reasonable in treating the patient to place the spine in the flexed position and hold it there permanently to prevent recurrence of pain? This is the principle of the self locking prop graft operation We know that the patient relieves his pain by flexion of the spine I have seen two cases in which the only way the patient could secure rest and sleep was by hugging his knees close to his chest With relaxation and straightening of the body after falling asleep, he was awakened by pain and again had to resume the above described position in order to obtain relief

We further know that posture, casts, braces or any other procedure that holds the spine in a flexed position will in a large number of cases give relief, and we know that so frequently when support is removed, there is a recurrence of pain The prop bone graft, in cases in which it has been used, has given what appeared to be immediate relief So far, in our experience, there has been no recurrence of pain Mechanically, the graft widely separates the spinous processes. The anterior portion of the intervertebral disc becomes the fulcrum of leverage. The intervertebral space is widened, especially on its posterior aspect, the posterior longitudinal ligament is stretched and, theoretically, any bulging of the disc is reduced. The articular facets are elevated, and these telescoped arthritic apophyseal joints are restored to their normal position. Pressure which has been exerted on their degenerated articular cartilages and roughened joint spaces is removed. The ligamentum flavum is stretched and any forward protrusion or prolapse into the canal of this structure is reduced. Last, the intervertebral joint space is enlarged, and by the combination of reducing all intrathecal pressure or irritation, nerve root pain is relieved. The graft should be heavy and strong to prevent breaking. Sufficient medullary bone should be used to insure a large strong buttress of bone that firmly unites to each other the posterior arches and processes of the unstable vertebrae. If this can be accomplished, there should be permanent protection with no further collapse or telescoping of these vertebrae and no recurrence of pain.

POSTOPERATIVE CARE

No immediate postoperative support is necessary. The patient lies in bed on a boarded mattress and is instructed to keep his back flat and not to twist the spine. He is allowed to "roll like a barrel" from side to side and may assume a position in bed with the shoulders and knees slightly elevated. As soon as wound healing is safe, he may become ambulatory. One of our patients (a thin, small young man) insisted that he felt normal, and he was allowed to be up and to walk about on the fifth day after surgery. Ordinarily, it would seem that a period of ten to twelve days postoperative rest in bed would be more judicious. It is wise to furnish all patients with a low back support which has been reinforced by straight vertical bars in the back of the appliance. This support should be used as a constant reminder to hold the back flat and in the correct posture. This is particularly true in large, heavy individuals with pendulous abdomens. The patient is cautioned against lifting, bending, stooping and any excessive spine movements for at least two months following surgery. For two more months restricted activities are advised. In four months

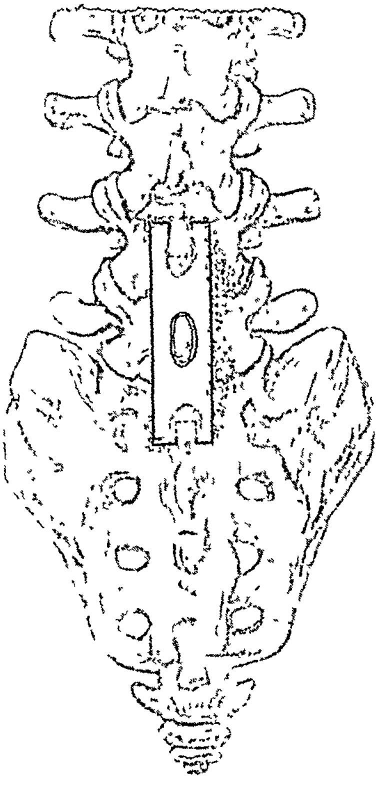

Fig. 6. Posterior view of spine showing self-locking prop bone graft in position. It should be noted that the space between L5 and the sacrum has been enlarged. The graft is reinforced with medullary bone.

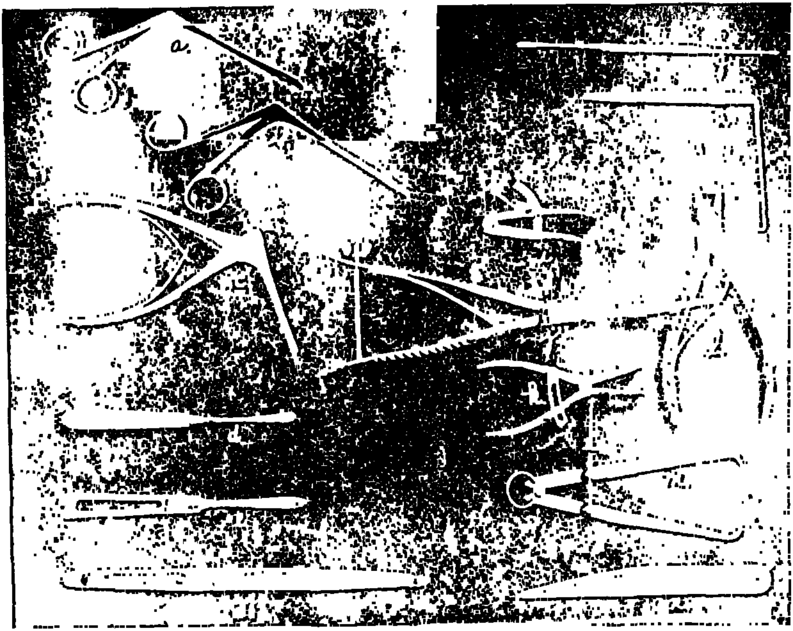

Fig 7. Special instruments used in prop bone graft operation. (a and b) Polyp forceps. (c) Bone punch to make intermediary hole in bone graft after drilling. This instrument is also used to remove portion of lamina when necessary to expose nucleus. (d, e and f) Lamina dissectors. (g) Straight dura or nerve root retractor. (h) Right angle nerve root retractor. (i, j and k) Special lamina separators. (l) Rongeur used to undercut spinous processes. (m) Caliper. (n) Rule.

after the operation, or when x-rays reveal firm bony union, the patient may consider himself reasonably safe and may engage in semi-normal activities. In one of our patients, a young, vigorous, and rather irresponsible individual, the graft was fractured one month after operation. This caused localized pain which lasted about forty-five minutes. Since then he has been entirely comfortable, and there was apparently no unfavorable influence exerted on his progress.

RESULTS

During the past seven months fourteen cases have been treated by this method.* The cases have been too few and the time has been too short to justify positive conclusions. In only four of these fourteen cases was there a typical large disc protrusion that unquestionably caused nerve root pressure. In five other cases the disc lesion was questionable and the fragments removed were too small to account for nerve root pressure. Five cases had no disc lesion. All cases had demonstrable unstable spines, hypertrophy of the ligamentum flavum, a narrowed intervertebral foramen or other evidence of nerve root pressure. All patients were relieved. Is it not reasonable to assume that elevation of the bony structure played a large part in relief of symptoms?

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* All patients had typical symptoms of disc lesions which had been present for a period of months or years. All patients had had a thorough period of conservative treatment.

EVALUATION OF FINDINGS IN
14 OPERATIVE CASES

	Instability	Ligamentum Flavum	Nucleus Pulposus
Brannon, L. P.	++++	++++	+
Chapman	++	+++	+
Craig	++++	+++	0
Faust	+++	++	+++
Goff	++++	0	0
Guignard	++	++	++
King	++	+	0
Prince	+++	+	+
Sigmon	+++	++	++++
Tansel	+++	+	0
Turner	+++	++	++++
Williams	++	++	+
Williamson	++	++	+
* Brannon, G. A.	+++	++	+++

* It is very striking that the only patient in this series who has had a recurrence of symptoms is the one in which the prop bone graft was prepared but was not used. All other patients are getting along well.

There has been no operative mortality and no operative infection. In one large, heavy individual there was a small area of superficial pressure necrosis at the lower end of the wound due to lying on his back too long after operation.

SUMMARY AND CONCLUSIONS

A self-locking prop bone graft of the spine has been devised to aid in the permanent relief of local pain and radicular neuritis. The graft is used with or without exploration of the spinal canal as the symptoms indicate.

The rationale of the method is not new. It embodies a number of well-established principles that have previously been used in similar means of treatment.

The operation is constructive in nature and it is not a destructive procedure.

By exploring the spinal canal all possible nerve root pressure is relieved and by separating the spinous processes with a prop graft the structures are restored to their normal relationship and are held permanently in this position.

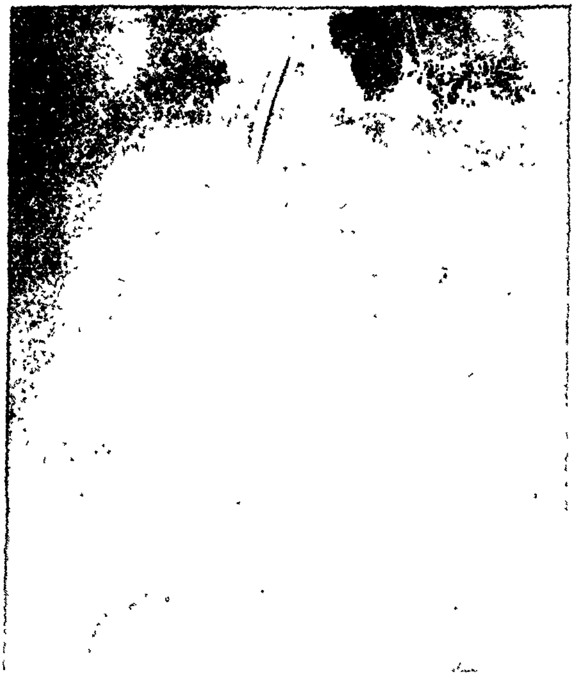

Fig. 8. Postoperative x-ray showing prop bone graft in position—notice widening of the fifth lumbar interspace.

The operation does not require extensive and shocking surgery. The period of hospitalization is no longer than that required for the usual disc operation. Casts, braces and heavy postoperative supports are not necessary. The period of convalescence is shortened, and the patient may return to work or to normal activity in shorter than the usual length of time

Sufficient experience has not been gained to justify conclusions Years of observation may be necessary Results have been sufficiently impressive to warrant a report of the procedure in the hope that interest may be stimulated *

Unforeseen complications may develop which may militate against this approach to the problem of low back pain or radicular neuritis that is not relieved by conservative measures It may be that the graft will absorb under constant pressure in the erect posture, it may be that disc disintegration will continue to occur Other complications may arise Some may argue that the bone graft adds unjustifiable length of time to the operation This type of surgery can be performed as quickly as the usual disc operation No more time is consumed, and surgical shock is less in preparing and placing the bone graft than in exploring and curetting the intervertebral disc or discs

In addition to "disc suspect" cases in any portion of the spine, it is suggested that the operation may have a field of usefulness in old fractures, unstable spines and any other spine afflictions where it is desirable to fuse the spine to relieve and protect spinal nerve roots from pressure

For this reason it is the author's opinion that every surgical removal of a herniated nucleus pulposus should be followed by spinal fusion in the flexed position to relieve the actual and to protect a potentially unstable spine

Grafts of any length can be made by this method Similar designs for bone grafting have been made previously and no claim is made to priority for the graft

RÉSUMÉ

Un greffon osseux de la colonne vertébrale se fermant de soi même est présenté par l'auteur pour le soulagement de la douleur locale et de la névrite radiculaire Le greffon s'emploi avec ou sans exploration du canal vertébral selon les symptomes présentes par le malade

L'exploration du canal nous permet de remédier à toute compression des racines nerveuses La séparation des apophyses épineuses au moyen du greffon souteneur permet de rétablir et de maintenir les rapports structuraux normaux

L'opération est constructive et n'entraîne pas de grande et choquante chirurgie Elle n'exige qu'une période d'hospitalization et de convalescence courtes Des attelles plâtrées, des supports postopératoires ne sont pas nécessaires L'opération ne demande pas plus de temps que l'opération ordinaire sur les disques

L'absorbtion du greffon occasionnée par la pression constante due à l'attitude erecte ou à la continuation de la désintegration discale sont des complications qui peuvent survenir

La technique est utile dans les anciennes fractures et dans certaines affections de la colonne vertébrale dans lesquelles il est désirable de fusionner la colonne afin de remédier et de protéger les racines nerveuses spinales de toute compression nocive L'auteur exprime l'opinion que toute ablation d'un nucleus pulposus doit être suivie d'une fusion vertébrale afin de soulager et de prevenir l'existence ou la survenance d'instabilité vertébrale

SUMARIO

Un injerto oseo por broche automático ("a self-locking prop bone graft"), ha

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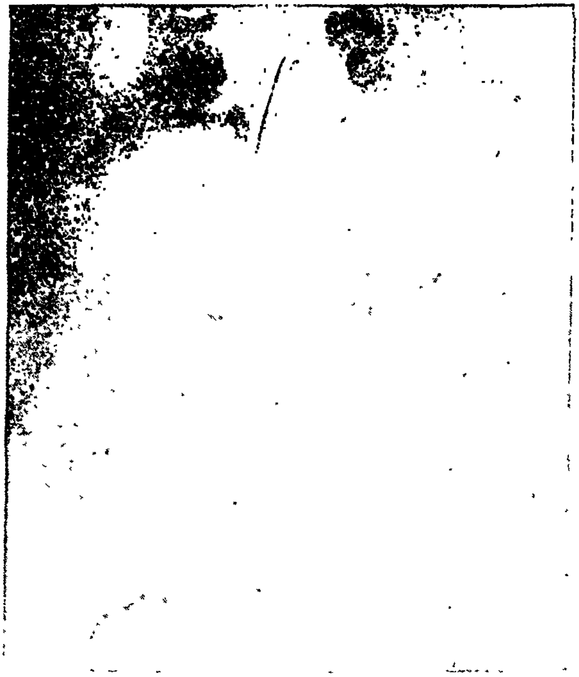

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L'exploration du canal nous permet de remédier à toute compression des racines nerveuses. La séparation des apophyses épineuses au moyen du greffon souteneur permet de rétablir et de maintenir les rapports structuraux normaux.

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SUMARIO

Un injerto-oseo por broche automático ("a self-locking prop bone graft"), ha

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sido empleado en la columna vertebral para mejorar y curar el dolor localizado y la neuralgia radical. El injerto se usa con o sin exploración del canal vertebral según las indicaciones sintomáticas.

En la exploración del canal vertebral toda presión existente sobre raíces de nervios puede ser levantada, separando las apófisis vertebral por un injerto de apoyo o sostén; los tejidos son repuestos normalmente y sanan permanentemente en dicha posición.

La operación es de reconstrucción y no necesita intervención quirúrgica prolongada ni chocante. El período de hospitalización es corto y la convalecencia con el uso de moldes, broches y pesados apoyos postoperatorios no son necesarios. La operación puede ser hecha con la misma rapidéz que en la operación de disco.

Las complicaciones más comunes, la más posible es la absorción del injerto bajo presión constante en postura dereche o tal vez continuación de la absorción del disco.

Esta técnica es utilizable en fracturas viejas, vertebras movedizas o en cualquier condición vertebral que requiere inmobilizar la columna vertebral para mejorar y proteger la raíces de los nervios espinales contra la presión.

Es la opinión del autor, que la extirpación de la hernia del nucleus pulposus debe ser completada con la fixación vertebral en posición de flexión para mejorar y para evitar la instabilidad vertebral.

Выводы

С целью постоянного облегчения местной боли радикулярнаго неврита была изобретена самозамыкающаяся пересаженная костяная стойка позвоночника. В зависимости от симптомов эта стойка применяется с исследованием или без исследования спинного канала.

При исследовании спинного канала все нервные корни освбоождаются от давления, а раздвижка позвоночных отростков при помощи пересаженной стойки не только восстановляет нормальное отношение этих частей, но также и держит их постоянно в этом положении.

Операция эта конструктивная и не требует очень экстенсивной и шоковой хирургии. Она дает возможность сократить срок пребывания в больнице и выздоровления, и гипс, корсет и тяжелые послеоперационные стойки ненужны. Операция производится так же быстро, как и обыкновенная дисковая операция.

Возможными осложнениями являются: абсорбция пересаженной кости из-за постоянного давления в вертикальном положении и продолжающаяся дэзинтеграция междупозвоночного диска.

Этот способ полезен в старых переломах, при неустойчивом позвоночнике и во всех тех спинных болезнях, где желательна спайка позвоночника с целью облегчить или защитить корни спинных нервов от давления. По мнению автора, спинная спайка необходима после каждого хирургического удаления грыжевого nucleus pulposus для того, чтобы укрепить действительно или потенциально неустойчивый позвоночник.

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SIR BENJAMIN COLLINS BRODIE

(Continued from page 68)

notes of them in the morning, which you may transcribe in the evening; and in doing so you should make even what are regarded as the more trifling cases the subject of reflection."

His reflections on the prize system then in vogue sound modern: "I would limit the prizes to one class, founded on cases. . . . A man wants a prize. He gets books, reads up the subject; and this kind of work keeps him out of the dissecting room and the wards of the hospital. Yet these are the only places where he can get any knowledge that he can apply to practice, and learn to observe and think." Brodie was convinced, too, that obtaining a competency formed a part, and only a small part, of professional success. His greatest contribution to surgery was the inauguration of the conservative principle, especially in orthopedic surgery, in which he was a forerunner of Liston, Syme and Fergusson. A pioneer in subcutaneous surgery, Brodie made many improvements in surgical instruments and appliances.

A letter from the author's collection, reproduced below, shows his zeal in promoting his fellow surgeons whom he considered worthy.

Private

14 Saville Row
August 10, 1844

My Dear Sir

I should have sooner thanked you for the letter which I received from you some time since, & for the information which it contained, if it had not been that, in one way or another, I have lately had

(Continued on page 81)

Clinical and Roentgenologic Diagnosis of Diaphragmatic Hernia

L. J. GARIEPY, B.S., M.D., F.A.C.S., F.I.C.S.,
AND J. H. DEMPSTER, M.A., M.D.
DETROIT, MICHIGAN

ROENTGENOGRAPHY, in patients with symptoms of the chest and abdomen, has greatly increased the number of reported cases of diaphragmatic hernia. Yet there is a surprising number of unsuspected cases. Patients with distressing symptoms,—more or less severe, constant or intermittent, continue for many years, sometimes under the care of physicians and even undergoing operations of various kinds without the diaphragmatic hernia being diagnosed preoperatively or being discovered at operation. It is for this reason that detailed reports of such cases have practical value.

The earliest reported cases (Ambrose Paré, 1610; Hildanus, 1646; Riverius, the first congenital diaphragmatic hernia, 1698; Morgagni, 1769; Andrew, the first case of paraesophageal hernia, 1903, and others) were post-mortem findings. According to Arnsperger, before 1908 the diagnosis had been made only ten times in living persons.

The incidence of hernia of the diaphragm has been repeatedly increased due to improvement in technic and to increased attention to the subject. Harrington[11] illustrated this by pointing out that at the Mayo Clinic, from 1900 to 1925, 30 cases were recognized clinically (19 treated operatively) while from 1925 to 1933, 147 cases were recognized (60 treated operatively). In a later article, carrying the series through 1939, he stated that in the last fourteen years the diagnosis was made twenty times as frequently as in the previous eighteen years. MacMillan (1920) reported three cases in 15,000 radiographic examinations in U. S. Army Hospital No. 1. Béclère reported two cases in 5000 examinations. While engaged in routine examinations of the fundus of the stomach, Morrison[17] (and Healy) studied its varying shape in upright, prone, supine, lateral and oblique positions when filled with barium meal. The investigation was made with the express purpose of finding a means to earlier diagnosis of malignancies of the stomach. The study disclosed an incidence of 42 cases of congenital hernia of some portion of the fundus of the stomach through the esophageal hiatus in some 3500 gastric cases.

Turner[20] noted 673 articles on gastric herniation added to medical literature between 1930 and 1939. The most important of these included the group in which herniation occurred through the esophageal hiatus. According to Turner, some degree of herniation of the stomach through this hiatus was found in 3.5 per cent of 1500 upper gastro-intestinal examinations.

Harrington, by examination of the diaphragm in the course of abdominal operations, found the muscular ring snug about the esophagus in 65 per cent. In 35 per cent, at least one finger could be inserted between the muscular ring and the esophagus and in 5 per cent three fingers could be inserted. Special roentgenologic examinations in the last group of cases "occasionally" demonstrated hernias not recognized by preoperative clinical or roentgenologic examinations. Both Morrison and Harrington concluded that the incidence of hernia of the diaphragm would increase with the attention given to its diagnosis.

The diaphragmatic hernias with definite onset related to a trauma to the region are the more readily diagnosed, depending, of course, upon the extent of the injury to the diaphragm and the suddenness with which the organs are sucked up into the thoracic region, what organs are admitted, and to what extent. Even in traumatic cases, however, there may be a lapse of months and even years after penetrating injury or blunt trauma before correct diagnosis is made and treatment instituted. Of 127 soldiers wounded in the last war who were later found to have hernia of the diaphragm, 40 per cent had symptoms for from one to fifteen years before the diagnosis was made.[12] The nontraumatic cases, congenital and acquired, likewise include a wide range of variations and types, including those due to lack of development of the diaphragm which may threaten the life of the newborn infant, and the slowly acquired types due to smaller defects and structurally weakened areas in the diaphragm such as the most common herniations through the esophageal hiatus.[2, 4, 17, 18] In a large proportion of the cases of congenital origin, the patients reach an adult age before diagnosis is made. Hedblom called attention to two cases of adults with congenital absence of half of the diaphragm.[13]

Whether the terms applied are eventration of the diaphragm or hernia—true or false, acquired or congenital—the diagnosis and treatment of these cases call for special consideration and carefully selected therapy.

Many of the patients continue for a period of years in obvious discomfort without receiving the attention necessary for proper diagnosis. Even those cases of very gradual onset and mild and indefinite symptomatology may be precipitated into a dangerous condition of threatened or actual obstruction and strangulation of a part demanding immediate surgical intervention under very difficult and unfavorable circumstances. Better to make certain of the diagnosis and operate under the more favorable circumstances of election.

Abbott[1] urged attention to the early diagnosis of true hernias of the diaphragm (those with hernial sac) by means of fluoroscopic examination with the patient lying on back and on abdomen. If the patient then takes a deep breath and strains, the detection of any small hernial sacs of the diaphragm are favored. Ball[3] suggested the rapid distention of the stomach with gas, under fluoroscopic observation, by giving the patient a Seidlitz powder. Whether referring specifically to these or similar suggestions, Hedblom[15] questioned the wisdom of depending exclusively upon special technic for roentgenologic demonstration. He further pointed out (discussion following paper by Woolsey[21]) that the diagnosis cannot always be made by the roentgen rays. Spontaneous reduction may occur at times, and if this occurs at examination the hernia will, of course, escape detection. A herniated intestinal loop may not fill with contrast material or may be of such size and location as to be overlooked or hidden by other shadows. Also herniated omentum and spleen are not seen roentgenologically.

Improvement in diagnosis would undoubtedly occur by the simple expedient of including diaphragmatic hernia more frequently in the enumeration of tentative diagnoses to be ruled out or substantiated. Andrews[2] mentioned a case in which the presumptive diagnosis of the clinician was confirmed by the radiologist by having the patient bend forward several times, causing the sac to fill with barium and protrude above the diaphragm.

The clinical picture varies widely. The symptoms may be largely referable to the digestive tract, and the patient may have committed himself to attempts at relief by selective dieting and soda regimen self-imposed, or may have been kept by his physician on an "ulcer" diet. Harrington[8] stated that twenty-one patients in a series of 161 had been operated on previously without relief of their symptoms and were completely relieved by operations for hernia of the diaphragm: eleven had had cholecystectomy; four, cholecystostomy; three, appendectomy; two, pyloroplasty; and one, gastroenterostomy. Other erroneous diagnoses included in the total series were: gastric ulcer, duodenal ulcer, intestinal obstruction and hyperacidity. Cardiac disease, cancer of the esophagus, and stricture of the esophagus were also included in the series. Intrathoracic pressure and discomfort frequently lead to diagnoses of various heart conditions or to strictures and malignancy of the esophagus, and tumor of the lung. Note the position of the stomach in the case here reported (Figs. 1 and 2) where there is contact with both heart and lungs. In these cases with intrathoracic symptoms, the patients have, in many instances, been subjected to long continued medical treatment, mostly mis-

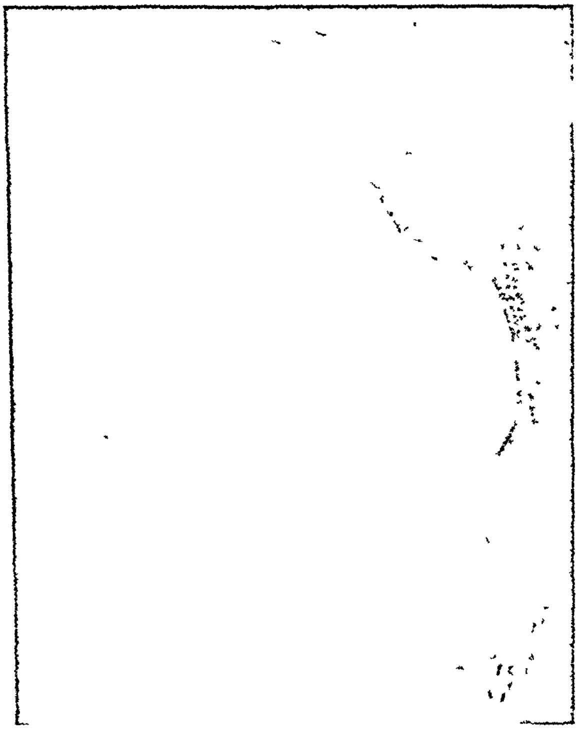

Fig. 1. The [illegible] cardiac position of the stomach when filled with the standard two tumblers of the barium opaque meal.

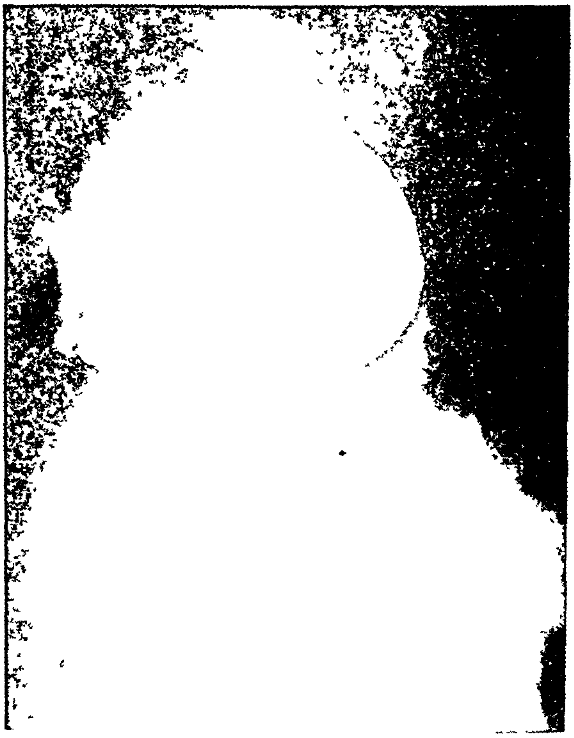

Fig. 2. The stomach partly empty. The position of the stomach is above the diaphragm.

directed, or to self-imposed habits of posture, especially after eating, and restricted activity The variation of the symptoms or their severity with posture is one of the most significant observations that can be made in arriving at a clinical diagnosis of hernia of the diaphragm

While the traumatic cases have been more common in adult males, the congenital and acquired types occur in both sexes with equal frequency and have been discoverable from infancy to old age In Harrington's series of 467 patients, 227 were males, 240 females; youngest, 7 months, oldest, 82 years

For detailed embryonic and anatomic studies, and for a more complete classification and discussion of the various types of diaphragmatic hernia, reference is made to comprehensive and numerous monographs on the subject (References appended, the most recent and complete being that by Harrington [11])

The main purpose of this communication is to emphasize the importance of keeping on the alert to diagnose cases of diaphragmatic hernia and to offer another instance of long duration of symptoms which escaped diagnosis and treatment until late in life

CASE REPORT

The patient, a widow 62 years old, consulted one of the authors (L J G) on July 1, 1944 She complained of pain in the lumbar, as well as discomfort throughout the thoracic region which had been present for the fifteen years, becoming more severe of late Pain originated approximately at the costal vertebral angle and radiated to the entire left side It became sharp in character and at times very severe For the past twenty five years she had been using alkalies, principally baking soda which seemed to give relief Her appetite was good but she could eat only a limited quantity of food before she became distressed and before the pain became severe

Her past history revealed that in 1918 she had a cystic ovary removed, aside from that she had never had any confining illness

Laboratory findings blood pressure, systolic 240, diastolic 180, N P N 46 5, blood sugar 111 7, Kahn, negative The blood examination showed hemoglobin 90 per cent, red blood cells 4,650,000, white blood cells 9,500, polymorphonuclear 56, lymphocytes 38, mononuclear leukocytes 6, sedimentation rate was 41 mm (Wintrobe and Lansberg) Temperature, pulse and respiration were normal Practically a normal clinical laboratory finding except for the rise in blood pressure

A tentative diagnosis was made of hypertension with possible diaphragmatic hernia

X ray examination of the gastro intestinal tract revealed a marked distortion of the anatomy of the abdominal viscera Following the contrast meal, a fluoroscopic examination of the abdomen failed to show the filled stomach Instead, a large, dense, "water bottle" shadow was found covering the heart The initial appearance was that of a large hypertrophied or dilated heart A radiograph with patient in the prone position showed the stomach entirely above the diaphragm The stomach was apparently reversed in its herniated position The fundus was on the right side of the thorax, the pylorus towards the left as may be seen in the radiograph of the partially emptied stomach As the stomach emptied, the cardiac silhouette began to appear

An interesting lateral exposure of the chest (preoperative) showed the angulated esophagus making a sharp turn to the cardia located close to the thoracic vertebrae Evidently the cardia did not close, which accounted for the quantity of the opaque meal seen in the esophagus in the preoperative radiograph (as well as in the postoperative radiograph with the stomach below the diaphragm in the abdomen) The heart was anterior to the stomach As a result there was the so called pigeon breasted thorax The actual measurements were transverse, 26 cm , antero posterior, 27 cm (In the average normal female chest the ratio of the lateral diameter to the antero posterior diameter just above the diaphragm is 3 2)

The twenty four hour examination of the

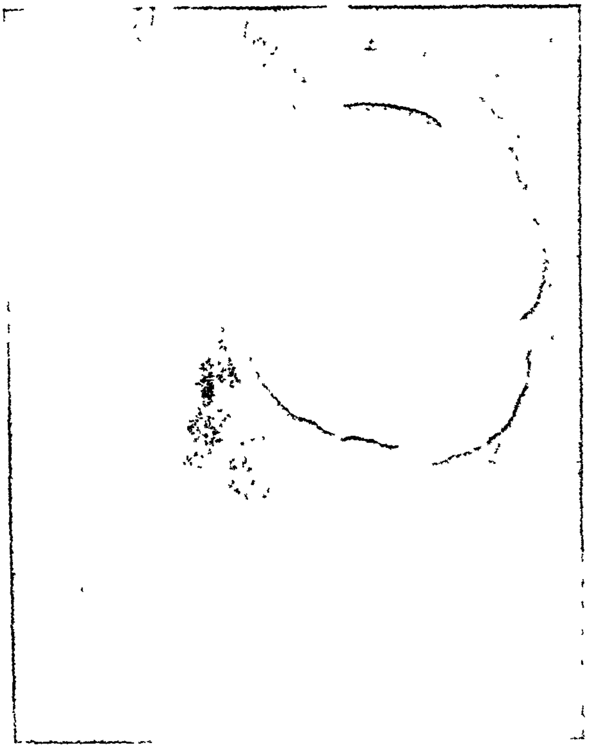

Fig. 3. The lateral radiograph shows the post-cardiac position of the stomach and reveals the angulation of the esophagus in the lateral position.

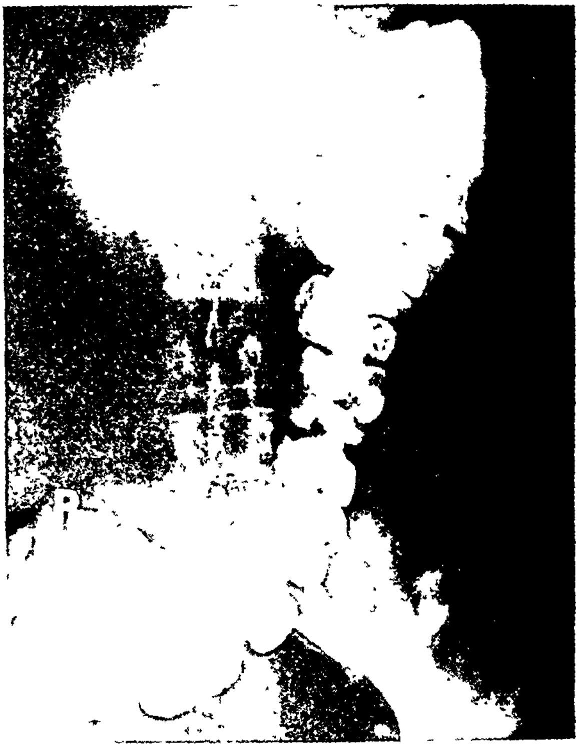

Fig. 4. The transverse colon with the splenic or upper portion incarcerated into the hernial opening.

abdomen showed the cecum in normal position. The hepatic flexure of the colon was below the crest of the right ileum. The transverse colon followed a diagonal course across the abdomen in such a way that the splenic flexure was incarcerated through the herniation aperture. The haustrations appeared well formed. The descending colon, sparsely filled, passed directly to the sigmoid.

The patient was sent to Mt. Carmel Hospital and kept under observation for a few days. On the second day in the hospital she was taken to the operating room and a phrenectomy was done on the left side, which allowed for 1½ in. to 2 in. more space to work during the operation, which followed three days later.

Operation: An upper left rectus incision was made about 10 in. long, extending from the xiphoid cartilage down. Upon opening the abdominal cavity, the stomach and splenic flexure were found in the thoracic cavity. These were brought down into position. The opening in the diaphragm easily admitted the entire fist. It was impossible to close this opening completely. Partial closure, however, was accomplished with mattress linen sutures, making it as tight as possible, and then suturing with linen the fundus of the stomach to the hiatus. All bleeding points were sutured and the wound was closed in layers in the usual manner without drains.

In subsequent x-ray examination, after the described operation, the liberated stomach is seen suspended in the abdomen. Figure 4 is a postero-anterior view. The lower end of the esophagus, which assumes a curved or tortuous shape, is seen to contain some of the contrast meal. The pylorus is near the lower end of the stomach.

The patient made an uneventful recovery and returned to the office on August 28, at which time an x-ray examination was made of the stomach in its normal position in the upper abdomen. The long axis of the stomach is parallel with the long axis of the body. This was the position in which we finally affixed the stomach. Seen two months after the operation, her appetite was good and she had gained weight. She stated that she felt better than she had ever felt in her life. In fact, she had no complaints whatever. Her blood pressure had dropped to systolic 170, diastolic 120.

SUMMARY

Proper use of the x-ray will establish the diagnosis of diaphragmatic hernia, in which symptoms may not be easily distinguished from those of other abnormalities and diseases of the abdomen or of the chest. Examples are given of cases in which patients have passed from one physician to another without the diagnosis having been made, even when the hernia is a massive one. Operations for the removal of gall bladder or appendix have even been performed without discovery of the hernia. A case of successful operation upon a diaphragmatic hernia is presented, and the presentation is accompanied by pre- and postoperative x-ray studies.

RÉSUMÉ

Les rayons-x peuvent établir le diagnostic de hernie diaphragmatique dans les cas ou les symptômes pourraient porter le clinicien à croire à l'existence d'autres anormalités ou à la presence de maladies abdominales ou thoraciques. L'auteur cite des cas qui passèrent de médecins à médecins sans que le diagnostic fût établie même dans des cas de hernies volumineuses. Des opérations pour l'ablation de la vésicule biliaire et pour l'enlèvement de l'appendice furent faites sans que l'opérateur s'aperçut de l'existence de la hernie diaphragmatique. L'auteur presente un cas de hernie diaphragmatique opérée avec succès. La présentation fût accompagnée de filmes pré- et postopératoire se rapportant au sujet.

SUMARIO

El uso competente del rayon-x puede establecer el diagnóstico de hernia diafragmática, cuando los síntomas no aclaran esta diferenciación de otras abnormalidades y enfermedades del abdomen y del pecho. Ejemplos son citados en que pacientes han pasado de un médico a otro sin determinar el diagnóstico, aún cuando la hernia es de tamaño imponente. En verdad, operaciones del apéndice y de la vésicula biliar han sido practicados sin descubrir la presencia de la hernia diafragmática. Un caso operado con éxito es presentado, demostrando los estudios hechos por rayon-x antes y después de la operación.

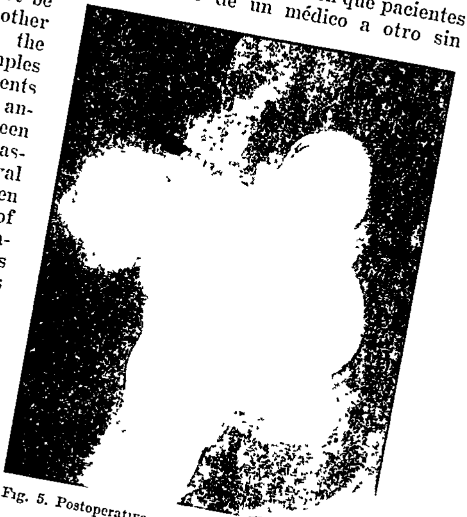

Fig. 5. Postoperative view of the stomach in the abdominal cavity.

Выводы

Правильное рэнтгеновское исследование поможет поставить диагноз в тех

случаях диафрагмовой грыжи, в которых симптомы мало отличаются от других ненормальностей и болезней живота и груди. Даны примеры случаев, которые были исследованы одним врачом за другим без постановки правильнаго диагноза, даже когда грыжа была очень массивна. Даже были совершены операции над желчным пузырем или для аппендецита и все-же грыжа не была обнаружена. Представлен случай успешной операции диафрагмовой грыжи и до- и после-операционные рэнтгеновские данные.

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(Continued from page 77)

more business in my hands than I could well get through.

I some time since placed your name on a list to be considered by the Council of our College with respect to the fellowship—but I cannot answer for what twenty three other persons may do when the question comes before them for their determination.

At all events, I have no doubt that if some members of the College in your neighborhood were to sign a memorial to the Council recommending you for the fellowship there would be no difficulty in the matter.

If this cannot be easily accomplished, I think that a letter addressed to myself from one, or two, or more of the more influential nobility or clergy or gentry in your part of the world would be very useful.

The new list of fellows must be put forth before the end of this matter and the plan that I have mentioned can be accomplished the better.

Yours truly,
B. C. Brodie

P.S. *What is especially required is that the Council should be informed that you are especially called in as a consulting surgeon in your district.*

This is only one of the kindnesses among many that were bestowed on his fellow men, his colleagues and students by Sir Benjamin Collins Brodie, whose humanity, as well as his skill as a surgeon, made him one of the outstanding English surgeons of the past century.

Obviously times, modes and men have not changed much despite the tremendous advances made in the sciences from the period of Brodie to the present day.

FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

THIS IS YOUR COUNTRY TO HAVE AND TO HOLD

KEEP HER FOREVER SAFE AND STRONG

BUY MORE AND MORE WAR BONDS AND STAMPS

Cesarea Extraperitoneal en Distocias Provocadas por las Partes Blandas de la Pelvis y en Mujeres Infectadas*

(Indications for Extraperitoneal Cesarean Section in Certain Cases of Dystocia of the Soft Parts and in Infected Women)

BERNARDO J. GASTELUM, M D
MEXICO D F

(PART II)

LA energía de la contracción uterina valuada durante el trabajo, nos sería útil para presumir si no la feliz terminación del parto cuando parece existir inextensibilidad de los tejidos de la pelvis, cuando menos para eliminar a la musculatura uterina como una de las causas determinantes del entorpecimiento del trabajo, pero las investigaciones efectuadas hasta ahora, se han limitado a determinar la potencia que necesita desarrollar el útero para romper las membranas, dilatar el cuello y expulsar a través del canal vaginal al feto

Dentro de la falta de extensibilidad de las partes blandas, hay que incluir ciertas histeropexias practicadas con mala técnica y que inmovilizan la pared anterior, impidiéndole su normal desarrollo durante el embarazo, y aquellos úteros que conservan cicatrices de rupturas en un parto anterior, porque estas heridas, asegura Winter, jamás curan per-primans y dejan en cambio, cicatrices conjuntivas facilmente desgarrables. Scipiades, en partos a término, en estas condiciones, encontró que en un 40 por ciento se presenta la rutura uterina, y en un 18.75 por ciento en los prematuros.

Naugebauer recopiló cincuenta y ocho casos de estenosis vaginal en que hubo que practicar la cesárea. Para Winter, las estenósis musculares anulares entre el orificio externo y el anillo de contracción, ofrecen muy raras veces un obstáculo invencible y permanente a la salida del feto, pero cuando la dificultad es insuperable, hay que intervenir por la vía abdominal.

Todavía me queda por referir, otras más de las dificultades que presentan las partes blandas a la salida del feto, cada una de ellas reclama un tratamiento especial, por la vía natural, en tanto el entorpecimiento no llega a ser imposible. Como la indicación de la intervención para cada caso haría más prolija y extensa esta nota, reservo su estudio para un trabajo posterior, porque entre ellas hay temas de impresionante interés, como la aplicación del forceps de Kjelland, en cabeza alta, la histerotomía de Bumm, en cuellos que no se dilatan, para referirme por ahora al tratamiento esencialmente quirúrgico, que reclaman aquellos casos en los que el feto no puede nacer, se pretende que lo haga vivo y existe infección, por las manipulaciones vaginales, ya que no se dá importancia a los obstáculos que oponen las partes blandas, hasta que estos se tornan imposibles para la expulsión del feto, corriendo peligro la madre de la misma manera que el niño.

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* Editor's note The change in printing establishments prevented the concluding half of Dr Gastelum's paper from appearing in the last issue of the *Journal*

Cuando el feto vivo no puede salir por la vía vaginal, hay que sacarlo por la sección del abdomen y del útero. Esta operación que principia en la mitología cuando "Hermes por orden de Zeus, abrió el vientre de Semele, perecida en las llamas, y extrajo el niño de siete meses, después de lo cual Zeus, lo encerró por una sutura en sus caderas llevándolo hasta la madurez"; y que ha dado motivo al mayor número de meditaciones quirúrgicas, constituyendo el documento-histórico más abundante de vicisitudes en cuanto a la muerte de la parturienta, ya que en toda época se ha apreciado por encima de la existencia del hijo la de la madre; pareció encontrar su verdadera solución con la era antiséptica y el perfeccionamiento de la técnica. Mas tales exactitudes cientificas, no han bastado para quitar a la cesárea ese peligro que le es propio en cuanto a una probable infección y que no consiste solamente en la amenaza del exterior, común a todas las intervenciones quirúrgicas, y que puede prevenirse; sino a circunstancias adversas que provienen de la función fisiológica del útero. A evitar estas consecuencias desastrozas, vino el método de Porro, posteriormente, como resultado de una técnica correcta, de una hemostasia completa y del uso de un material adecuado, numerosos operadores, gracias a los perfeccionamientos obtenidos, lograron eliminar la operación mutiladora de Porro, conservando los órganos y la capacidad procreativa de ellos. Estadísticas acusiosas comprueban la reducción de la mortalidad en la cesárea, que con Georg Winter, ha sido aplicada a casos en los que hace muy pocos años, se resolvían por antiguos y brutales procedimientos obstétricos que si no provocaban la muerte de la madre y del feto, dejaban a la mujer en condiciones deplorables.

La cesárea intraperitoneal, tiene su aplicación ideal en los casos de integridad de la bolsa de las aguas, cuando la parturienta no ha estado sujeta a maniobras frecuentes y en donde todas las exigencias quirúrgicas favorables se encuentran cumplidas. Más, no obstante, el adelanto logrado, el útero continúa siendo un órgano tan frágil y tan alterable en el puerperio, que el factor infección no ha podido ser excluído en aquellos partos de feto vivo, de rotura de la bolsa de las aguas y de maniobras vaginales en los que la intervención intraperitoneal se encuentra indicada. Harris y Brown, han llegado a concluir que seis horas después de rota la bolsa de las aguas con exploraciones repetidas, etc. los gérmenes invaden la cavidad alta del útero.

Naturalmente como dice Bondy, las investigaciones bacteriológicas, muy importante para el pronóstico, no son decisivas para una conducta firme, pues a pesar de encontrar en los genitales gérmenes muy diferentes y nocivos, estreptocos, estreptococos hemolítico, estafilococos, neumococos, colibacilo, etc., se desconoce su virulencia y la capacidad de resistencia de los tejidos y del organismo. Y para estos casos en que la operación cesárea intraperitoneal constituye un peligro teniendo presente las importantes indicaciones de Winter, en que es urgente salvar a la madre y con ella al niño, y en que no existe más obstáculo que la inextensibilidad de los tejidos blandos y el agotamiento de lo potencia uterina por una labor excesivamente prolongada, hay que recurrir a la cesárea extraperitoneal, cuya trascendencia no se ha estimado suficientemente, donde la aplicación de la operación intraperitoneal se hace extraordinariamente aventurada; porque es en el momento de abrir el útero, cuando ya contiene gérmenes, tomadas todas las precauciones, que los microorganismos van a sembrarse en la cavidad abdominal. Y es natural predecir que no sólo en los casos sospechosos o infectados, deberá recurrirse a la cesárea extraperitoneal, sino en todos los casos posibles planteándose con este tema, el mismo problema que con la extirpación extraperitoneal del riñón, que se ha abierto camino definitivamente, relegándose a hechos muy contados, la nefrectomía transperitoneal.

Pues bien la cesárea extraperitoneal como la nefrectomía lombar, es mucho más difícil quitar el riñón siguiendo el camino transperitoneal puede ejecutarlo un cirujano de poca experiencia, pero por la vía extraperitoneal cuando los vasos son cortos y existen adherencias, se requiere habilidad. A pesar de estas dificultades, que confinan la nefrectomía a manos expertas, no han sido un obstáculo, para que se imponga como el método de elección. Algo semejante tendrá que suceder con la cesárea extraperitoneal que reduce considerablemente el peligro de la infección, relacionada a la intervención misma, quedando relegada a las consecuencias propias del parto, fiebre puerperal, pues por la experiencia de Beisch se comprueba que aún infectado el tejido celular, hecho posible en este género de intervenciones, su peligro es sin disputa menor que la contaminación peritoneal.

Las dificultades fundamentales de la cesárea extraperitoneal son el pliegue peritoneal superior, que se ve como si una línea transversal blanquecina, lo separara hacia abajo del tejido conjuntivo que es rojizo. Del modo de reflejarse el peritoneo, depende que se le pueda o no retirar, si a consecuencia de un largo trabajo dice Sellheim, se desplazo el pliegue de reflexion hacia arriba, separada la vejiga de la cara anterior del segmento y cuello, se nos presenta esta región, el pliegue se rechaza hacia arriba, por otra parte, si el pliegue de reflexión es muy bajo, por que el trabajo haya sido ligero, o por que la presentación no esté lo suficientemente encajada, entonces la separación y rechazamiento del pliegue peritoneal resulta imposible o muy difícil. Quizá, esto se deba también asegura Doderlein, a diferencias anatómicas personales. Si se secciona accidentalmetne el pliegue, esto solo no impide el plan operatorio, ni significa un fracaso del método, basta cerrarlo por uno o dos puntos. Pues este accidente es muy distinto, a abrir la cavidad ampliamente en la intervención transperitoneal con el peligro de que líquido infectado se derrame. Cuando no se encuentra el pliegue peritoneal, después de separar la vejiga de uno de sus bordes hacia adentro o sea su parte media, entonces no se está seguro del procedimiento extraperitoneal, pues solo cuando se le tiene a la vista, el procedimiento es correcto.

Afirma Doderlein categóricamente, que queda excluída toda lesion a la pared vesical cuando este desprendimiento se hace con cuidado y que no es necesario despegar la vejiga hasta la línea media o más allá de esta, sino que es bastante desplazar hacia la parte media el borde levantado de la vejiga, lo que no es difícil, sin gran desprendimiento de su tejido de sostén. La parte del útero que queda visible por el hecho de llevar hacia adentro la vejiga, corresponde un poco hacia afuera de la línea media del útero; el desarrollo vascular es aquí un poco mayor que en la parte media pero ésta en menor proporción que cerca de los bordes uterinos. Aquí surge la segunda dificultad puede haber casos, en que existan una o dos gruesas venas, entonces se ligan y se cortan, hay otros en cambio, que los vasos son muy numerosos y por ellos no se pondrá abrir el útero, porque la mujer moriría de hemorragia; todo lo que sea aproximarnos a los bordes uterinos es peligroso por el ureter y los gruesos vasos.

Otro hecho importante, en la cesárea, para evitar la hemorragia por inercia uterina, debe practicarse la intervención, cuando las contracciones sean todavía enérgicas. Y por último, la tercera dificultad que consiste, en que siempre que se abre la porción inferior de la matriz y principalmente en el método extraperitoneal, extraer el feto es menos fácil que en los casos en que se hace la incisión, más alta. Está recomendado usar el forceps como pinza, hay que recordar que lo corriente, en estos casos, es que la sangre salga en abundancia una vez abierto el útero y tal cosa estorba la aplicación, el forceps corriendo peligro la madre por la pérdida de sangre. La mano, en los casos posibles, sigue siendo para mí el mejor instrumento de tracción.

La intervención se conduce de la siguiente manera: Posición de Trendelenburg, incisión que parte tres o cuatro centimetros debajo del ombligo y termina sobre el pubis, incindimos la piel, y la linea aponeurótica hasta la grasa preperitoneal, hacer este corte cuidadosamente para no abrir el peritoneo y lesionar alguna asa de intestino que pudiera colocarse en este lugar. Vamos a la extremidad inferior de la herida, la que llegó hasta el borde superior de la sínfisis, ahora habrá que descubrir el utero, para ello estando la vejiga distendida con doscientos gramos de solución estéril y muy débil de azul de metileno, para lo que se deja en la vejiga un cateter en comunicación con un recipiente que contenga la solución; con una torunda de gasa, se busca el borde de la vejiga, prefiero el izquierdo por comodidad, hay que recordarque estamos en un espacio desprovisto en una extensión de casi cuatro centímetros de peritoneo, este espacio lo forma la parte inferior de la cara anterior de la vejiga, arriba tenemos el pliegue parieto vesical, vamos al lado izquierdo, borde, de este pliegue, y con la torunda de casa, los desprendemos hacia la línea media, dificilmente pasamos de ella porque está muy adherido, lo desprendido es fácil por la unión laxa del peritoneo a la vejiga.

No hay que usar en este desprendimiento ni bisturí ni tijeras para no herir la pared de la vejiga. Con este rechazamiento hacia la linea media de la vejiga descubrimos la porción inferior y anterior del útero, tener presente entonces, lo que ya dijimos sobre su vascularización, porque vamos abrir no exactamente la linea media de útero sino un poco afuera de esta linea, donde hay una irrigación mayor, no acercarse por inadvertencia cerca del borde uterino; ahora buscar el pliegue vesicó-uterino, arriba, que como dice Doderlein, se distingue como una linea transversal blanquecina, del tejido conjuntivo rojizo. Recordar en esta ocasión, lo que ya dijimos en cuanto al desplazamiento de este pliegue hacia arriba por un trabajo del parto efectivo o bien su no des plazamiento por una labor insuficiente, en este ultimo caso, el pliegue se encuentra abajo, lo que nos impide abrir extraperitonealmente el utero si es que no podamos llevarlo hacia arriba; lo que se facilita cuando es posible porque la unión del peritoneo a la porción inferior del utero es muy despegable, tal cosa se realiza también con una esponja a torunda de gasa. Con separadores se rechaza hacia el lado correspondiente la vejiga y arriba el pliegue peritoneal, a los lados los bordes de la herida. Se procede entonces a abrir el utero teniendo presente lo que dijimos de su vascularización, hacer una incisión vertical que empieza debajo del pliegue peritoneal, prolongarla abajo hasta el punto extremo del utero descubierto. Se puede llegar al orificio externo de útero, se secciona pues toda la pared del cuello hasta la inserción vaginal, si se necesita.

La hemorragia como en toda cesárea es variable; hay veces que sale muy poca sangre, otras en que sale mucha, todo dependen del desarrollo de los vasos y de la inserción de la placenta; no preocuparse pretendiendo hacer una hemostasia imposible, sino evacuar el utero rapidamente, para ello quitar la posición de Trendelenburg y poner la paciente horizontalmente, si no se puede con la mano extraer al feto en presentación cefálica, usar el forceps como una pinza si viene de cara meter un dedo a la boca y llevar la cara a la linea media en la dirección de la sección, en otros casos se le puede tomar por los pies.

Hecho esto volver al Trendelenburg, hacer la limpieza del campo, inyectar en músculo uterino una o dos ámpulas de gynergeno, antes de abrir el útero deberá ponerse otra intramuscular, extraer cuidadosamente la placenta y membranas. Al sacar el feto los bordes del útero se retraen lo que se evita tomándolos con pinzas en T para que no se desgarre, tal cosa facilita la extracción de la placenta así como la sutura de la pared uterina para la que se empleará cátgut cromado de veinte días número dos, no comprender en la primera sutura ni la mucosa no la sero-musculosa sino unicamente el tejido muscular, cubrir esta sutura con otra sero-muscular, usar de preferencia puntos separados a una sutura continua. En seguida suturar como de costumbre los planos superficiales. Si hay peligro de infección mantener canalizado el tejido conjuntivo.

Considera Latzko que para facilitar la separación de la vejiga, con una torunda de gasa, se desvía hacia la derecha o izquierda, con lo que se consigue muy facilmente hacer visible el repliegue del peritoneo que la envuelve, pudiendo desviarlo integro hacia arriba. De esta manera queda descubierta una pequeña porción de la pared anterior del segmento inferior del útero. Mediante la desviación hacia arriba el repliegue peritoneal ya la desviación lateral de la vejiga, se puede descubrir una gran parte de la pared uterina. Entonces se incinde longitudinalmente la pared del cuello uterino, la cabeza si es lo que se presenta sale por presión o con el forceps. Evitar las lesiones de la vejiga, las desparraduras de sus venas producen hemorragias violentas muy difíciles de cohibir.

Edward G. Waters, del Hospital de Maternidad Margarita, de la ciudad de Jersey N. J., ha efectuado sesenta operaciones de cesárea supravesical extraperitoneal, sin un solo caso de muerte de la mujer. Su técnica hace posible la operación de aquellos casos que no puedan intervenirse por los métodos que acabo de describir. Waters procede así: Limpieza de la vagina, se pone en la vejiga un catéter y se llena con doscientos gramos de solución estéril coloreada con azul de metileno, tal cosa no solo tiene interés para estar seguro de los límites de la vejiga, sino que hace más visibles las facias, transversal y perivesical, la disección de estas facias, por otra parte, es más fácil con la vejiga vacía. Hágase una incisión en el abdomen que principia tres centímetros debajo del ombligo y termina sobre el pubis, incisión curva paramesial izquiera de Pfannenstiel; puede hacerse la incisión en la linea media; si es en la linea media dividir piel, aponeurosis hasta llegar al tejido celular supraperitoneal, evitar lesionar el peritoneo o alguna asa intestinal que pudiera estar colocada en esta región.

Identificar hacia abajo de la incisión el fondo de saco parieto-vesical, el vértice de la vejiga se reconoce por el desarrollo abundante de sus vasos, este repliegue peritoneal parieto vesical se continua hacia abajo por la facia transversalis que termina en el pubis, este espacio esta desprovisto de peritoneo, es por donde se hace la talla hipogástrica, y tiene más o menos cuatro centimetros de longitud; debajo de la facia transversalis existe la facia perivesical que principia en el pubis, se dirige hacia arriba para colocarse detrás del repliegue parieto-vesical y se continúa sobre la vejiga que envuelve, cubre su vértice, su cara posterior, de ahí se refleja sobre la cara anterior del cuello uterino y cara anterior del útero, cubre su base para ir hasta la cara posterior donde la abandonamos porque ya no nos interesa; el peritoneo después de formar el fondo de saco parieto-vesical cubre el vértice de la vejiga que es casi una cara cuando está dilatada, la cara posterior hasta cierto punto, en donde se refleja para formar el fondo de saco vesico-uterino, luego la cara anterior del utero, su fondo, su cara posterior y aquí lo abandonamos porque como con la facia, ya no nos interesa.

Hago esta descripción de las facias, para que se comprenda bien el método de Waters, pues una vez descubierta esa porción de la cara anterior de la vejiga que no tiene peritoneo, y que está limitada hacia arriba por el repliegue parieto-vesical y a los lados por los pliegues peritoneales que se forman al cubrir la vejiga de arriba abajo dejando descubierta una gran parte de las dos caras vesicales laterales de la vejiga cosa que se quiso aprovechar para intervenir extraperitonealmente en la vejiga.

Se hace, sobre la vejiga cubierta por la facia transversal y la facia perivesical, una incisión longitudinal que comprende estas dos facias hasta la capa muscular de la vejiga que no debe lesionarse, y que principia arriba, inmediatamente debajo del repliegue parieto vesical y termina abajo hasta el punto más remoto que se haya descubierto de la pared uterina anterior, en seguida, se hace una incisión transversal equidistante de los dos lados de la extremidad superior de la incisión vertical, de modo que toda la incisión tiene la forma de una T. Divididas las dos facias, con el mango del escalpelo o con una torunda de gasa, se despegan de la vejiga y con ellas va hacia arriba el repliegue peritoneal, saco parietovesical, este despegamiento se sigue sobre el vertice de la vejiga hasta la cara posterior donde encontramos y desprendemos el repliegue vesico-uterino, para facilitar tal cosa, ir a buscar este repliegue en los bordes, parte superior izquierda, se sostiene la vejiga con una esponja o con gasa separándola con cuidado del tejido aerolar. Bien identificado el pliegue vesico-uterino se introduce por debajo de él un dedo de la mano izquierda, la bolsa parece un saco herniario y hay que mantenerla integra, tal cosa "es la parte más importante de la operación," se diseca el ligamento vesico uterino con el bisturí y se baja la vejiga detrás del púbis. Para esta disección de las facias hay que vaciar la vejiga. Ya tenemos la porción anterior del útero a la vista, Waters hace una incisión curva hacia arriba, recordando el peligro de acercarse a los bordes del útero, se puede hacer verticál; volver la vejiga a su sitio, suturar con cátgut cero, las facias, el resto de la operación se conduce como en la técnica precedentemente descrita.

Podemos hacer una demostración de esta intervención ya que no contamos, al menos que yo sepa, con una estadística amplia de cesáreas extraperitoneales practicadas en la república, el inteligente doctor Manuel Mateos Fournier, ha practicado cinco, cuatro por el método Latzco

Doderlein, y una por el de J Ricci, Jefe del Servicio de Ginecología y Obstetricia del Hospital Municipal de New York, usando la incisión de Pfannestiel, e incisión semilunar del segmento inferior del útero Con el propósito llenar esta laguna de en una comunicación posterior nos fundamos por ahora para estimarla en datos obtenidos del extranjero

Bumm en 99 casos de cesárea extraperitoneal de los cuales en 46 la bolsa de las aguas tenía de rota más de doce horas y con temperatura elevada, no tuvo muertes imputables a la operación, en 16 casos más que iba a operar extraperitonealmente no pudo hacerlo por no encontrar el repliegue peritoneal Doderlein en 145 casos principiados extraperitonealmente, en ocho tuvo que hacer la cesárea intraperitoneal por hemorragias o no haber encontrado el pliegue peritoneal Stoeckel publicó 26 casos de cesáreas extraperitoneales con un sola muerte que se atribuyó a la anestesia raquídea Waters de N Jersey, ha operado 60 casos sin una sola defunción Las muertes por septicemia y por infección puerperal, no deben apartar la indicación favorable a esta operación, puesto que de todas maneras tendrían tales cosas que suceder Por lo que se refiere a los niños vivos, también la estadística le es favorable, en 400 niños obtenidos por Doderlein por la vía extraperitoneal, hubo solamente 21 muertos a sea una mortalidad de 5 1 por ciento

RÉSUMÉ

Les parties molles ainsi que Doderlein l'a indiqué, peuvent offrir un obstacle non negligible a la descente du fétus, et même empêcher toute délivrance par les voies naturelles Les difficultes créés par les tissus mous parfois égalent celles offertes par les malformations du bassin osseux

Quand l'accoucheur ne s'aperçoit pas de la dystocie due aux parties molles la parturiente est soumise frequemment à divers examens et à des manipulations vaginales dans l'espoir de pouvoir effectuer la délivrance par les voies naturelles

Cette prolongation inutile de l'accouchement favorise le traumatisme des tissus mous entraine l'épuisement de la mere, et parfois, met en peril la vie de la mere et aussi celle de l enfant

C'est dans ces cas infectes, oú il y a rupture du sac amniotique et asphyxie imminente du fetus, surtout si les contractions utérines sont vigoureuses, que la section césarienne extra peritonéale est indiquée

L'auteur préconise la césarienne extra péritonéale quand elle est indiquée Eventuellement, elle deviendra, malgré ses difficultés techniques, l'operation de choix, ainsi que l'emploi de la voie lombaire s'est généralisée pour les néphrectomies Pour l'auteur, la voie extra péritonéale offre des avantages incontestables

SUMARIO

Se hace resaltar la importancia que las partes blandas de la pelvis tiene en el descenso del feto, y como pueden ser un obstáculo equivalente como asegura Doderlein, a las distocias de la pelvis ósea, para que el parto se haga difícil y en ocasiones imposible

Como no se ha dado verdadera importancia a estos obstáculos de las partes blandas, creyendose que el alumbramiento se podrá realizar, las parturientas sufren frecuentes exploraciones y maniobras vaginales, hasta que la imposibilidad del trabajo compromete la vida del niño, de la misma manera que la de la madre Para estos casos de parturientas infectadas, con bolsa de las aguas rota y estando el feto amenazado de morir por asfixia, está indicada la cesárea extraperitoneal, que debe practicarse como toda cesárea, cuando las contracciones uterinas son todavía potentes.

Por otra parte, esta operación debería extenderse a todos los casos en que la cesárea esté indicada. Es una intervención más difícil que la que se practica a través del peritoneo, pero no obstante sus dificultades, tendrá que imponerse como procedimiento de elección, en forma semejante a lo que ocurrió con la nefrectomía por la vía lombar. La idea de Waters, aplicable a todos los casos, será la que prevalezca a las otras que han inspirado la cesárea extraperitoneal.

Выводы

Здесь особенно подчеркнуто значение болезненных родов *(dystocia)*, причинен-
болезненных родов *(dystocia)*, причинен-
ных ненормальностями мягких тканей таза. Как Donderlein указал, они иногда так же важны как и ненормальности костнаго таза: они мешают проходу плода и даже делают невозможным нормальные роды.

Когда акушер не принимает во внимание состояние мягких частей таза, то роженница часто подвергается разным исследованиям и влагалищным манипуляциям в ожидании нормальных родов. Такое напрасное удлинение родов производит большую травматизацию родового канала и истощение матери, что иногда угрожает жизни и матери и ребенка.

В таких то, уже зараженных, случаях, где оболочки уже прорваны и создана опасность асфиксии плода, и в присутствии сильных маточных сокращений — в этих именно случаях существует показание на внеперитонеальное кесарево сечние.

По мнению автора такое сечение должно быть произведено во всех необходимых случаях. Он думает, что, несмотря на оперативную сложенность внеперитонеальнаго кесарева сечения, оно сделается таким же общеприятным методом, как сделалось поясничное удаление почки.

Во всех случаях которые прибегают к внепперитонеальному кесареву сечению, нужно руководиться идеей Waters'а, так как она применима ко всем случаям.

CANCER OF RECTUM AND COLON

(Continued from page 32)

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The staggering news that our beloved Past President and devoted friend

DOCTOR FRED H. ALBEE

died, reached us as we go to press. Further details in the next issue of the *Journal.*

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Editorials

The Rôle of Medical Practice,

Its Share in the Success of the All-out War Effort, and Its Future Place in the Unfolding Problems of Life and Government

LOVE ONE ANOTHER. During the last four thousand years, there have been but two hundred sixty-eight years of peace, despite more than eight thousand peace treaties. (This was reported by the Society of International Law, London, June 18, 1943.)

This global war, this universal conflict we are witnessing, is trying the souls and sinews of the human being, friend and foe, because of its insane origin, needless sacrifices, savagery and cruelty, unparalleled in the world's history, staggering the imagination and blotting out all sense of perception, reasoning and judgment.

Out of blood and pain and mass destruction we are, with it all, salvaging acts of heroism and valor, faith and fervor, recognition of spiritual realities and moral principles. From the humblest fighter, in the ranks, to the most brilliant military and political leaders, liberal recognition has been accorded for their deeds, with promotion in rank and honors, while in shadows of battle, with the combat man, we see the spiritual chaplain, the surgeon and the nurse ministering to the needs of the fallen brother as never before in recorded organization of First Aid in the line of danger, with resulting salvation of life of the fighting men, ultimately returning to efficiency the largest percentage of the sick and wounded.

The man of medicine fits in the organization of military regulations and efficiency with full-hearted abnegation and devotion, for we never hear of acts of insubordination or failure of duty in the ranks of the medical services of our armed forces and the contribution of the medical coördination to war efficiency in the man power by the fundamentals of preventive medicine and sanitation and by the early application of methods of first aid and quick transportation of the sick and wounded to adequate facilities of nursing and medical care. These, all together, have stamped out major war epidemics in armies, civilian hardships and sickness in war torn communities, thanks to the alertness and selflessness of the man in white.

A large share of incalculable value is due to the medical profession in the service of the nation at war, and when peace again is God-given to us, let the men of our science be welcomed back to their labors to further the fruits of their experiences and research for the benefit of humanity.

The man of medicine belongs squarely to the army of defense against disease and preservation of the health and vigor of mankind and, through science, of all animate life as well, hence the need and wisdom of segregating medical practice to the dignity and ethics traditionally inherent in the medical profession. He has and will always serve his government and fellow men in peace and war to the best of his ability but, if he is to survive destructive influences which seek to regiment his professional work to ideologies of political power, the progress of medical science will be retarded by subjugation of its essential liberties, its originality and genius, to limitations and restrictions based on false premises of equalization and the lure of justice under centralized power and control, engendering class distinction and favor under guide of Utopian protection.

The medical man's proficiency is incompatible with political token for service, and though his professional integrity does fit him with the highest quality of citizenship, in the annals of medical history we have instances of great service to the state by leaders of medical science, such as Rudolf Virchow, as High Councillor of the German Bundesrat, and that of the Chief Surgeon of the Grand Army of Bonaparte, Baron Larrey, of whom the Emperor spoke as "the most honest man he had ever known"; these are but two outstanding personalities among legions who have given quality of service in peace and in war while in political favor, without the sacrifice of their medical genius and devotion.

When peace again is with us, countless problems and unpredictable developments will try the judgment and balance of man to the utmost degree and in the solution of post war conditions, the freedom and initiative of the medical profession in its organized activities will be the more effective and constructive in the maintenance of health standards and of medical education if called upon by the state for collaboration and guidance, rather than for the regimentation of its fabric to political football under centralized control.

Very serious phases demanding expert judgment and freedom will come for management and solution in the interest of the returning armies in which medical criterion and experience must exercise leadership and control.

The Fellowship of the International College of Surgeons, already in great numbers serving in all branches of the armed forces, eagerly looks to full participation in all tasks assigned to it by post-war necessities, in full collaboration with the authorities and in pursuit of the principles of the greatest good for the greatest number.

Desiderio Román

Penicillin—Latest Chemotherapeutic Agent

PENICILLIN, the latest chemotherapeutic agent, was the culmination of Alexander Fleming's life-long search for bacterial inhibitors. It is an organic acid which reacts chemically to form salts and esters.

Fleming first reported in 1929 that the mold *Penicillium notatum* inhibited bacterial growth. R. J. Dubos's investigations of antibacterial effect of an extract of soil bacillus followed, the results being published in 1939. This renewed interest in antibacterial agents of biologic origin. In England H. W. Florey and associates perfected the drug sufficiently to permit clinical use.

Florey, while on a visit to the United States, drew the attention of the National Research Council to the possibilities of this drug. The range of organisms affected by penicillin is selective, though wide, including nearly all *staphylococci, gonococci, meningococci* and *Micrococci catarrhalis*.

Optimal dosage for each type of infection has not as yet been determined. It varies depending on the type and severity of the infection from 40,000–50,000 Oxford units a day to 100,000–120,000 Oxford units a day.

Local, intravenous or intramuscular administration is recommended, depending on convenience, practicality and comfort of the patient.

In August 1943 a report was published by the Committee on Chemotherapeutic and Other Agents of the *National Research Council*, based on results obtained with penicillin in 500 cases of various types of infection by 22 groups of investigators.

Certain facts were brought out by this investigation.

1 Staphylococcic, gonococcic, pneumococcic and hemolytic streptococcic infections respond to penicillin, and it is of particular value in sulfonamide resistant gonococcic infections.

2 Results in bacterial endocarditis are disappointing.

3 In staphylococcic infections, a total of 500,000 to 1,000,000 Oxford units over a period of 10 days to two weeks is required for the average patient, beginning with 10,000 units every two or three hours.

4 In sulfonamide resistant cases of gonorrhea, satisfactory results are obtained within forty eight hours with 100,000–160,000 units.

5 The use of 100,000 units over a period of three days usually brings recovery in pneumococcic pneumonia.

6 Injection directly into the pleural cavity or subarachnoid space is advised in treatment of empyema or meningitis.

Since this report, more than 3000 cases have been treated with essentially the same results.

The effectiveness of penicillin in treating infected wounds and gas gangrene make it of especial value on the battle field. Excellent results have also been obtained in cases of ocular infections, mastoiditis, meningitis, syphilis and gynecologic infections.

It is contraindicated, not because it is injurious to the patient but because it is ineffective, in all gram negative bacillary infections, in tuberculosis, acute rheumatic fever, Hodgkin's disease, leukemia, ulcerative colitis, malaria, poliomyelitis, blastomycosis, virus infections and cancer.

At present penicillin is available in two salts penicillin sodium and penicillin calcium.

Further investigation will afford more information in regard to dosage and undoubtedly will furnish a greatly widened field of use.

M T

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

THIS IS YOUR COUNTRY TO HAVE AND TO HOLD

KEEP HER FOREVER SAFE AND STRONG

BUY MORE AND MORE WAR BONDS AND STAMPS

CHAPTER NEWS

CHINA CHAPTER

News has been received from the recently organized China Chapter of the International College of Surgeons giving detailed information concerning its officers, whose photographs and curriculum vitae appear below.

DR. JAMES K. SHEN

Dr. Shen, F.I.C.S., was born in 1898. His medical education was obtained at the School of Medicine, Western Reserve University, Cleveland, Ohio, from which he obtained his M.D. in 1924. Dr. Shen served as Intern, Lakeside Hospital, Cleveland (1924–26); Assistant Resident Surgeon, Peiping Union Medical College (1926–27) and Chief Resident Surgeon (1927–29); Chief Surgeon, Methodist Hospital, Wuhu (1929–30); Vice-Director and Head of Surgical Dept. of National Central Hospital (1936–41); Dean, Army Medical College (1934–36). At present Dr. Shen is Vice-Director, National Health Administration of the Executive Yuan; Honorary Professor of Surgery and Honorary Head of the Surgical Department of National Shanghai Medical College; President of the Chinese Medical Association. Dr. Shen is President of the China Chapter of the International College of Surgeons.

Dr. Shen is the author of several communications to scientific publications: "Tea in the Treatment of Burns"; "End-to-end Aseptic Intestinal Anastomosis"; "The Application of Matas' Principle in the Treatment of Varicose Aneurysm"; "Diagnosis of Acute Appendicitis"; "Erythromelalgia."

EUGENE CHAN

Dr. Chan, a graduate of Boston University School of Medicine in 1927, was born in China, December 22, 1899. He holds the degree of B.S. (1925); M.D. (1927); D.N.B. (U.S.A.) 1930 and American Board of Ophthalmologic Examiners (1931). Dr. Chan's past appointments include: Adolph Lewisohn Fellow, Johns Hopkins University (1929–34); Assistant in Ophthalmology, Johns Hopkins University (1932–34); Head, Dept. of Ophthalmology, Cheeloo University and Hospital (1934–39); Chief, Tsinan Rotary Eye Clinic (1937); Visiting Professor, National Central University (1942); Visiting Ophthalmologist, Fu Chen Memorial Hospital (1942–43). His present appointments are: Professor of Ophthalmology, West China Union University (1939); Head, Department of Ophthalmology, United Hospital of Associated Universities (1938); Visiting Ophthalmologist, Central Military Academy Hospital (1942); Visiting Professor, Yenching University, 1943. Dr. Chan is Vice-President of the China Chapter of the International College of Surgeons.

The medical publications of Dr. Chan include numerous articles in English, Chinese, German and Spanish, as well as a book in Chinese, *Diseases of the Eye*, written in collaboration with Dr. D. S. Shen.

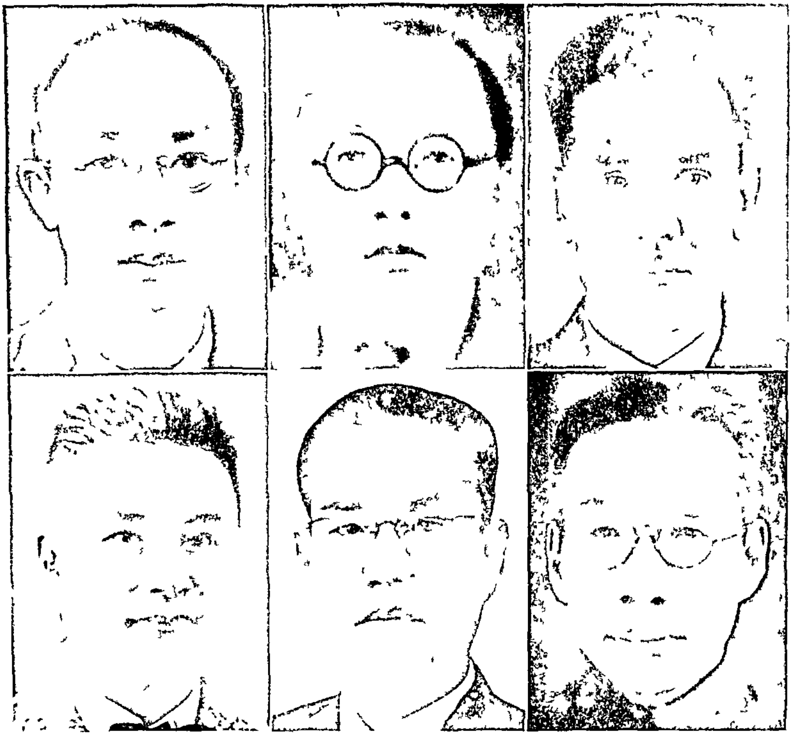
DR. GORDON KING

Dr. King was born in England in 1900. He was graduated from London Hospital Medical College, University of London, 1924. In addition he holds the following degrees: M.R.C.S. (Eng.), L.R.C.P. (Lond.), 1924; F.R.C.S. (Eng.), 1926; F.R.C.O.G., 1931. Dr. King has been House Surgeon, London Hospital (1924–26), Associate in Obstetrics and Gynecology, Peiping Union Medical College (1927–31); Prof. of Obstetrics and Gynecology, University of Hongkong (1938–41). Since 1942 Dr. King has been Visiting Professor and Head of the Department of Obstetrics and Gynecology, National Shanghai Medical College, Chungking. Dr. King is Executive Secretary and Treasurer of the China Chapter of the International College of Surgeons.

Dr. King's publications include: "The Value of the Levulose Tolerance Test for Hepatic Efficiency in the Diagnosis of Pregnancy Toxemia"; "Eclampsia in Chinese Patients: A Study of 33 Cases"; "The Tubal Factor in Sterility among Chinese Women"; "The Diagnostic and Therapeutic Value of Utero-tubal Insufflation"; "Utero-tubal Insufflation, an Analysis of the Results of 635 Insufflations Performed by the Kymographic Method."

CHARLES CHANG

Dr. Chang is a native of China. He was born January 18, 1895. He attended Mukden Medical College, Mukden, Manchuria, from which he was graduated in 1919. Dr. Chang was Professor of Anatomy and Surgery, Mukden Medical College (1930–35), and Professor of Anatomy, Medical College, Central University (1936–40). At present he is Chief Surgeon, National Northwest Hospital (1941) and Professor of Anatomy and Surgery, National Northwest Medical College (1941). Dr. Chang is a Member of the Board of Governors of the China Chapter of the International College of Surgeons. Dr. Chang has written a number of articles on surgical subjects, among them: "Some Experiences in Skin Grafting"; "Hyperabduction Methods in Reducing Old Standing Dislocation of the Shoulder Joint"; "Phrenicectomy in the Treatment of Pulmonary Tuberculosis"; "The Orr Treatment of Osteomyelitis and Compound Fractures"; "Some Observations on Northern Chinese Skulls"; "Bladder Stone in Manchuria."



Chinese Chapter officers Top row, left to right Dr Eugene Chan, Vice President, Dr James K Shen, President, Dr Gordon King, Secretary and Treasurer Bottom row, left to right Drs Henry I Chen, M L Hu, Charles Chang Members of the Board of Trustees

HENRY I CHEN

Dr Chen was born in 1901 and was graduated from Peiping Union Medical College in 1928 Dr Chen's past and present appointments are Chief Surgical Resident (1931–32) and Associate, Dept of Surgery (1932–34), Peiping Union Medical College, Visiting Surgeon, Hospital for Ruptured and Crippled, New York (1935–36), Visiting Surgeon (1934–35) and Head of Surgical Department (1936–38), Central Hospital, Nanking, Head of Surgical Dept, College of Medicine, National Central University 1940 Dr Chen is a Member of the Board of Governors of the China Chapter of the International College of Surgeons

Dr Chen has written "Composite Tumors of Salivary Glands", "Ankylosis of Jaw", "Association of Intra thoracic Lesions with Osteo arthritic Tuberculosis"

M L Hu

Dr Hu was graduated in medicine from National Peiping Medical College (1921) and Harvard University School of Medicine (1923) Dr Hu is at present a member of the Head, Ear, Nose and Throat Department of Central University Medical College He served previously as Associate in Oto Laryngology, Peiping Union Medical College and Graduate Assistant in Massachusetts Eye and Ear Infirmary, Boston Dr Hu is a Member of the Board of Trustees of the China Chapter of the International College of Surgeons

Dr Hu is the author of several articles published in Chinese medical publications: "Puncture and Irrigation of Maxillary Sinus"; "Lateral Sinus Thrombosis of Otitic Origin"; "Chronic Frontal Sinusitis."

VENEZUELA

THE INSTITUTE OF EXPERIMENTAL SURGERY OF CARACAS, VENEZUELA

Volume I, 1942, of the Annals of the Institute of Experimental Surgery is dedicated to Dr. Manuel Corachán García, F.I.C.S., and the rôle he played in the founding of the Institute of Experimental Surgery of Caracas.

A vivid editorial describes the meeting in Paris between Dr. Corachán, then a refugee from Spain, and Dr. Rafael Ernesto López, Minister of Education from Venezuela, as the result of which Dr. Corachán went to Venezuela in the middle of 1937. There he founded the Institute of Experimental Surgery, thus initiating a new era of medical progress in Venezuela.

In the obituary notice which follows is mentioned the Corachán award, consisting of a monetary grant, a diploma and the publication of the prize winning thesis, donated by Dr. Corachán to the Institute of Experimental Surgery.

On learning of the death of their Spanish Regent (Corachán), the International College of Surgeons adopted a resolution, published in the *Anales*, to establish the *Manuel Corachán García oration*, to be given at each International Assembly. Dr. Herman de las Casas, Caracas, was chosen to deliver the oration at the Fourth International Assembly, but delegated the task to Dr. Rafael Ernesto López.

Prof. J. Rojas Contreras describes in this volume the newly created chair of Surgical Technic established in the Institute of Experimental Surgery.

There follows a description of the purposes and tasks of the Institute, delivered by Dr. Manuel Corachán, October 16, 1939. Corachán believed that mere knowledge of anatomy and the acquisition of factual knowledge was not sufficient to form a surgeon of skill with clear judgment. Oral teaching should be supplemented by manual skill and mental development; anatomy, by physiology and pathology. The student should have experience in surgical clinics and acquire dexterity by practice on lower animals and cadavers.

The Institute is under the directorship of Dr. Herman de las Casas, F.I.C.S., who is known to our readers as an energetic, noteworthy outstanding member of our organization. His organizing ability and "stick-to-itiveness" are well known, and his ideals as well as his ingratiating personality have attracted to him many admirers and devoted friends.

Space does not permit entering into a discussion of all the excellent papers embodied in this opus, but a brief outline may be in place here. Professor Rojas discusses "The Chair of Surgical Technique in the Institute of Experimental Medicine." His analysis of the work done is enunciated and an outline for future activities sketched.

This is followed by an article on "Gastro-enterostomy," by Ignacio Combellas. It opens with an introduction and is followed up in the second part by a historical review of gastric surgery in Venezuela. The statistical study of the various forms of surgical procedures is illuminating. This is followed by a description of the history of posterior gastro-enterostomy, its technics, complications and how to remedy them. The third part of the work begins with an evaluation of the information gained from experimental studies in this connection This is very thorough, as are the other parts of the article, *i e*, it begins with the preoperative care, anesthesia, selection of animal instrumentarium, materials used, postoperative care, x ray studies and record of x ray findings This is followed by various technics of the operation used, which are illustrated, and a summary of results charted The conclusions are briefly as follows (1) the fundamental dangers of gastro enterostomy are hemorrhage at the stoma, disruption of the suture, necrosis of the jejunum (if it is not opened at the proper level), necrosis of the transverse colon through ligature of its blood supply (2) Peritonitis was only exceptionally observed, and, in the case of the dog, a good operative field was sufficient to prevent peritonitis (3) To protect the operative field, it is sufficient to have a large compress between the stomach and the jejunum across the future proposed anastomotic opening (4) The compress can be used to raise the zone of anastomosis and permit thorough inspection of the corners (5) Good hemostasis is essential (6) Two suture lines are usually sufficient (7) The surgeon should pay particular attention to the beginning of the suture (8) To guarantee the solidarity of the corners, the authors recommend not to terminate a suture in any corner, but to bring the thread through the middle of the last stitch and to anchor each suture on the anterior surface (9) Posterior gastrojejunostomies the authors consider more dangerous than the anterior form of the operation (10) To facilitate execution of the operation in the dog, one may fix the stomach to the colon with one or two interrupted sutures (11) If the stoma is well situated, it functions normally (12) Dogs frequently succumb a month following gastrojejunostomy without the cause being known (13) The mortality of gastroenterostomy is closely related to the perfection of operative technic

A splendid article on ''Renal Circulation after Compression of the Renal Artery, by Goldblatt's Method,'' by Dr Frank P Corrigan, F A C S, F I C S (Hon), is an illuminating contribution It summarizes the influence of the circulation of the kidney upon hypertension In the experimental animal, Corrigan caused a rise of the blood pressure by partial ligature of the renal artery

The established hyperpiesis is then corrected by an attempt to straighten out the tortuosity of the renal vein This is accomplished by a nephropexy An ingenious explanation is offered Constriction of the artery by reason of changed conditions, creates capillary dilatations, while straightening the renal vein tends to deplete the capillaries

An illuminating article on ''Surgery of the Esophagus,'' based upon experimental and clinical studies is contributed by Dr Mario Mazzei Uzcategui Here also various phases of this important question are entered into and discussed A very systematic course is pursued here, and various pathological conditions affecting the esophagus are evaluated from clinical and experimental deductions

This paper has four divisions first, historical aspects, second, anatomy and surgical anatomy, third, various forms of surgical and nonsurgical treatments, comprising such operations as esophagectomy, esophagogastrostomy, surgery of diverticula and stenosis of the esophagus, the fourth section embodies the research work done on lower animals and the results obtained from operations performed on 21 dogs The author considers submucous esophagoplasty the best procedure. He records seven successes on lower animals and cites two cases on human beings performed at the Vargas Hospital.

Of course the scholarly article by the late Prof. Corachán on the Institute has been already alluded to above. It is a penetrating evaluation of the work of the Institute.

This section is followed by an article on "Anesthesia and Experimental Surgery" by Dr. Ricardo Baquero González, the Associate Director of the Institute of Experimental Surgery. The various drugs used are described, the methods of inducing anesthesia are discussed and some very pointed, practical deductions are drawn.

A timely contribution is that of Dr. Enrique Zamora Conde on "Wounds and Sutures of the Cardiac Muscle." Like the other contributions to this fine volume, this is also extremely painstaking and thorough, pointing out the various forms of cardiac wounds and the methods of their repair, following cardiographic studies showing results and reactions. These conclusions are drawn from the experimental work on 13 dogs. Electrocardiograms were taken before injury and every two hours after infliction of the wound. Smaller wounds produce occasionally a monophasic alteration of the tracing. Besides the alterations of the Pardee curve there are other changes which have been discussed. The usually employed operative technics are discussed and evaluated. Of the 13 dogs, 9 died. Infection was responsible for mortality in the majority of cases. The local use of sulfonamides has seemed satisfactory.

A valuable study on "Nephropexy" in dogs is contributed by Francisco Baquero González. Here also a systematic approach to the subject is noted. From experimental studies using all methods to which the animals were subjected, the author concludes that the capsular technics of Marion and Albarrán are best.

This fine volume concludes with an article by Dr. R. D'Arago Flores, an experimental study on the treatment of the appendiceal stump in appendectomies. It seems that these fine workers, all of them, are imbued with the spirit of exactitude and follow a systematized method of approach. The author of this last article has used 27 dogs as experimental material and resorted to three different types of treatment of the appendiceal stump. In 12 cases it was ligated and left free in the abdominal cavity. He observed that after 24 to 96 hours all had necrosis of the stump, adhesions and purulent collection. Other animals were sacrificed after the seventh day. They had strong adhesions and good healing of the stump. In 8 the stump was ligatured and inverted by a double purse-string suture. An abscessed pouch was found in 6 after 48, 72 and 96 hours, besides hemorrhagic infiltration and ulcerations of the cecum. The other two dogs, who were sacrificed after 8 and 10 days, revealed adhesions and good healing. Both conditions were present in a dog reoperated on on the fourth and eighth days. In seven animals the stump was included in the pouch without ligature. In five animals, after 98 hours, the same hemorrhagic and ulcerous conditions were present, followed by perfect healing after five to seven days. The author concludes that the series of cases operated on is too small to draw any final conclusions.

This book embodies a wealth of worth-while material and should be perused by all progressive surgeons. It is of great value from a number of standpoints: (1) It exemplifies the scientific spirit that pervades the Institute of Experimental Medicine of Caracas. (2) The bibliographies, the historical studies and the thoroughness of the work are exemplary. (3) Finally, if placed in the hands of the young surgeon, it will act as a stimulus not only to him, but to other institutions where scientific surgery is practiced. The director of this fine organization and his co-workers are holding the beacon light of progress high. They are setting a fine example for others to follow.

MEXICAN CHAPTER

Prof. Dr. Gustavo Argil, F.I.C.S. (H.C.), has been named corresponding member of the Society of Internal Medicine of Buenos Aires.

The Eduardo Licéago Medal has been conferred on **Dr. Bernardo J. Gastellum**, F.I.C.S., of Mazatlán, Mexico, in recognition of his distinguished services lent to the Dept. of Public Health of the United States of Mexico.

Prof. Antonio Torres Estrada, F.I.C.S., Specialty Regent in Ophthalmology of the Mexican Chapter of the International College of Surgeons, has just been named director of the Hospital of Nuestra Señora de la Luz.

U. S. S. R.

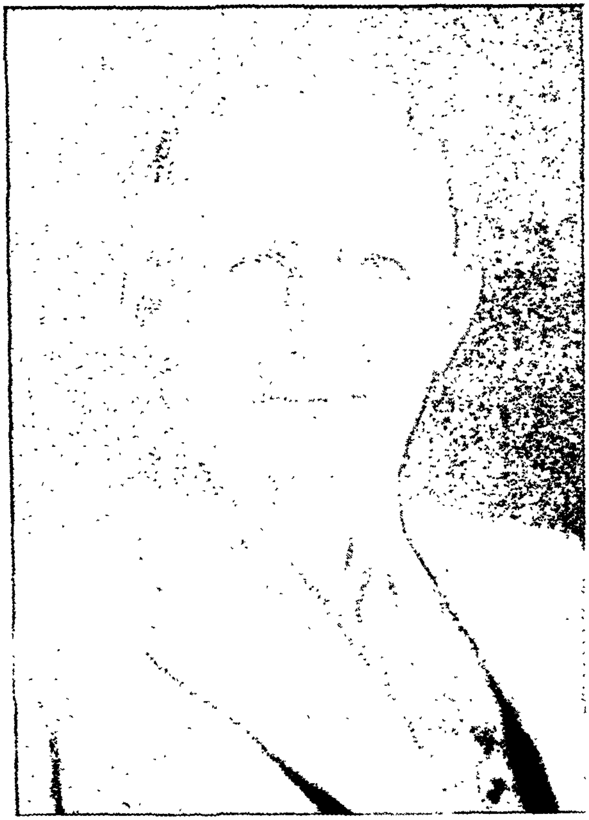
Recently the **Moscow State University** celebrated its opening session on scientific progress. Felicitations were sent by the International College of Surgeons. Prof. Ilya Jalkin, Director of the Moscow State University replied by cable, extending the thanks of the Moscow State University for the message sent by the International College of Surgeons.

UNITED STATES CHAPTER

Dr. Max Thorek, International General Secretary of the International College of Surgeons, has announced the inclusion in his will of a provision for the establishment of a fund which he has bequeathed to the United States Chapter of the International College of Surgeons, to afford aid to medical students who find themselves financially distressed during the course of their studies. To the central body of the International College of Surgeons, Dr. Thorek is bequeathing all royalties accruing from his writings. This represents a substantial sum, and will be perpetuated by members of the College who will continue to republish his works, the funds thus derived to go into the general fund of the International College of Surgeons, for certain specific purposes which will be announced later.

The **Wisconsin Guild** held its annual meeting on September 18 at Milwaukee, Wisconsin. Dr. Samuel Higgins presented a paper on "The Rôle of the International College of Surgeons in Postwar Training." This was followed by an interesting discussion of postwar problems in surgical training. The meeting was well attended.

Dr. Alfred A. Strauss, the Illinois State Regent of the United States Chapter of the International College of Surgeons, has been appointed a member of the Chicago Recreation Commission by Mayor Kelly. Dr. Strauss is senior surgeon at the Michael Reese and Mt. Sinai Hospitals of Chicago. He was born in Germany in 1883 and educated at the University of Washington and Rush Medical College. His post-graduate study was done at the Universities of Vienna and Heidelberg. Dr. Strauss is particularly known for his contributions to gastro-intestinal surgery.



Dr. Alfred A. Strauss

Lt. Comdr. Morris Weintrob (MC), USNR, recently advanced to Fellowship in the International College of Surgeons, has sent the *Journal* a free verse expression of his sentiments on the eve of his embarkation for overseas duty. We are reproducing it below.

PRE-EMBARKATION LEAVE

Once more
I've said goodbye to those I love
As thrice before.
But, this time, soon
I'll sail beyond the sea.

'Twas nice, indeed,
To spend a leave at home
Where reveille and taps
Are never heard.

But days flew by
At e'er increasing speed.
The flight of time
Could no way
Be deterred.

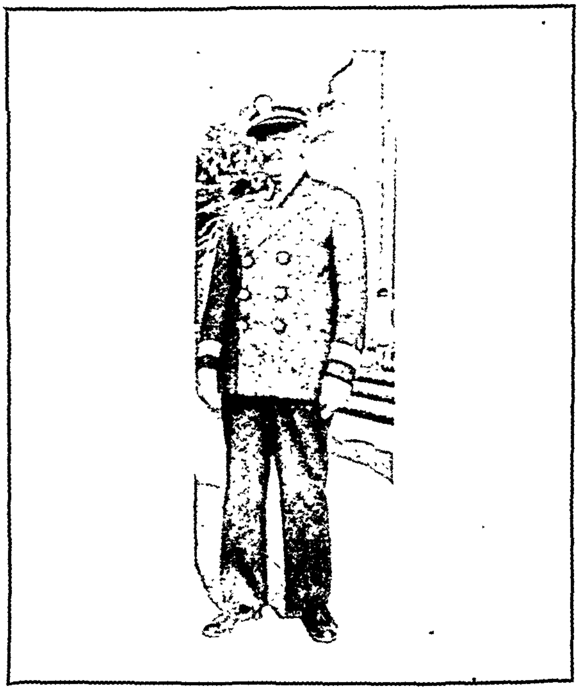
Disturbing thoughts
Throughout the day and night
Play havoc with
My equanimity.

Shall I come back,
If fortune says
'Twill be,
Whole in body and soul
To a future really free?

Or will there be ahead
The same uncertainty?

And will I need to grieve,
Because, in days to come,
My daughters' full grown sons
Will sail beyond the sea?

M. W.



Lt. Comdr. Morris Weintrob

The **Guild Meeting of District No. 3,** comprising Delaware, New Jersey and Pennsylvania, was held in Philadelphia on Feb. 14. Clinics were held in the various city hospitals. The Organization Meeting for the election of officers of the Guild was followed by a dinner. District Regents are being encouraged to hold these meetings.

ENGLAND

Mr. James F. Brailsford, F.I.C.S. (See p. 418, *Journal* of the International College of Surgeons, Sept.–Oct., 1944) of Birmingham, England, outstanding British radiologist, has arranged to give a series of lectures on "The Radiology of Bones and Joints" at the request of the medical personnel of the American and British overseas army. Lectures will be delivered at one of the hospitals or at Birmingham University. Mr. Brailsford, who is a member of the Royal College of Physicians and the Royal College of Surgeons, has twice been Hunterian Professor of the Royal College of Surgeons. Consulting radiologist to all the municipal hospitals of Birmingham, Mr. Brailsford is also the author of "The Radiology of Bones and Joints," now in its third edition.

Dr. Earl Craig

IN MEMORIAM

EARL B. CRAIG, M.D, F.A.C.S., F.I.C.S.

Dr. Earl B. Craig, Fellow of the International College of Surgeons, died on December 17, 1944, following an illness of three months. Dr. Craig was 64 years old. He graduated in medicine in 1906 and his post-graduate work was done at Jefferson Medical College (1908) and in Vienna. For ten years Dr. Craig was Prof. of Gynecology at his alma mater, which department he headed at the time of his death. His medical affiliations include: Philadelphia County Medical Society; Pennsylvania State Medical Society; American Medical Association; American College of Surgeons and the International College of Surgeons. Dr. Craig was certified by the American Board of Obstetrics and Gynecology. He was one of the pioneers of the International College of Surgeons, having been elected to Fellowship in 1937. He was chairman of the original Cap and Gown Committee. Dr. Craig left no survivors. With his passing the College has lost a staunch supporter, a valued member and devoted friend.

PEN PICTURE
of
PROF. DR. HUGO PICARD

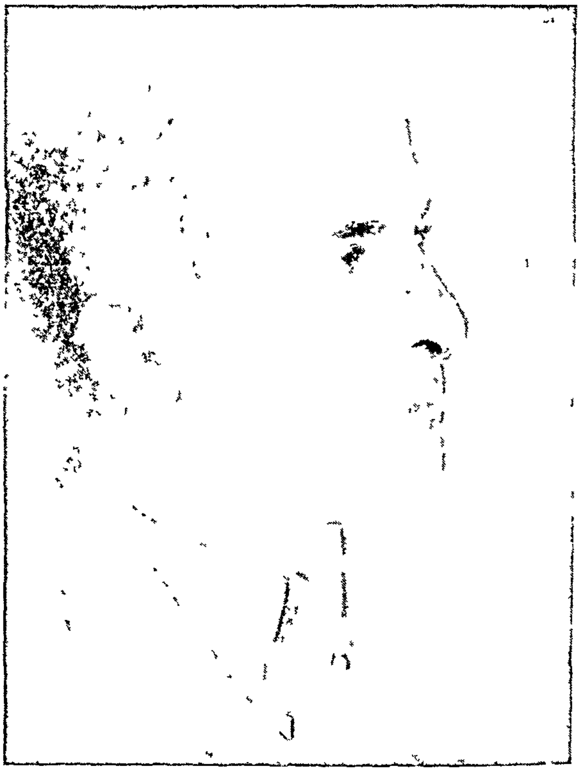
Dr. Hugo Picard, who was awarded a Fellowship in the International College of Surgeons this past year, was born at Konstanz-on-Bodensee, December 15, 1888. His secondary education at Konstanz was followed by a medical course at the Faculties of Medicine of the Universities of Munich, Berlin and Heidelberg. Dr. Picard received his doctorate in medicine from Heidelberg University in 1913, and the following year held the post of Probationer at the Heidelberg Faculty.

During the First World War Dr. Picard served as a military physician in the German Army. Then for one year he was assistant to Prof. Schmieden at the surgical clinic of the University of Frankfurt-on-Main, and from 1919–29, assistant, then chief doctor, of the surgical clinic of the University of Charity, Berlin (Prof. Hildebrand, Prof. Sauerbruch). His numerous duties at this time also included an instructorship in surgery at Berlin University.

Professional advancements followed rapidly in Dr. Picard's career. From chief surgeon of the surgical section and medical director of the new Polyclinic of the Jewish Community of Berlin (1929) and professor extraordinary of surgery at Berlin University (1930), Prof. Picard became chief surgeon of the Jewish Hospital, Cairo (1935).

Medical affiliations include membership on the Committee of the Royal Society of Medicine of Egypt, the Scientific Committee of the Medical Press of Egypt and the Commission of Medical Judges for Accidents to Workmen (election for this position being made by the Ministry of Public Health of Egypt).

Dr. Picard has made many fine contributions to surgical literature, covering such subjects as breast plastics, fractures, anesthesia, cancer, nephrectomy, hysterectomy and cholecystectomy without drainage, to mention but a few. An article on "Prophylaxis and Treatment of Thrombosis by Temparin" will appear in an early issue of the *Journal* of the International College of Surgeons.



Dr. Hugo Picard

NEW BOOKS

The *Proceedings* of the Institute of Experimental Medicine for the Study and Treatment of Cancer, recently published by Dr A H Roffo,* is a magnificent compendium of the work of the Institute, copiously embellished by excellent photographs and drawings Initiated in 1909 by experimentation with tumors in rats, the Institute of Experimental Medicine now enjoys a reputation unexcelled in Argentina or any other country

On Nov 7, 1922 the Institute opened its doors with a single building with 60 beds, which has grown to an institution comprising 14 buildings, including laboratories, dispensary and school of nursing The number of patients treated has reached the significant total of 120,000

The work of the Institute includes the following activities medical, medicosocial, teaching, school of nursing and training of specialized personnel The medical work in carcinoma consists of a diagnostic dispensary, treatment of ambulatory patients and hospitalization of cancer patients Public lectures and radio broadcasts supplement the work of the Institute, which also participates in International Cancer week

Improved diagnosis is responsible for the enormous increase in the number of cases detected in the early stages of development In 1924 the percentage of patients coming to the Institute for medical consultation from one to three months after the first symptoms were noted was 3 15, by 1943 this figure had increased to 69 66, or approximately 70 per cent of the total number of cases treated An analysis is made for the years 1940–43 of the number of patients treated, according to types of carcinoma

The relationship of cancer and sex is treated at length and morbidity figures given for males and females for the years 1926–43, the latest figures given being 56 54 per cent occurrence in females and 43 45 per cent in males Percentages are also given for morbidity according to localization and sex for the years 1941–43

Tables follow for clinical examinations according to localization, as well as for figures on the histologic type and localization of tumors which are observed in the biopsies of the Institute and other hospitals

Various treatments in use in the Institute include roentgen therapy, both high and low voltage, radium, radon and surgical treatment Types of equipment and methods of application are given and results charted

Part IV of this instructive volume consists of considerations of various types of cancer The frequency of occurrence, localizations, histologic forms, pathological and clinical antecedents, ages of persons affected, treatments and results obtained therefrom are considered in cancer of the skin, breast, tongue, throat, rectum and other parts of the body

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* *Proceedings of the Institute of Experimental Medicine for the Study and Treatment of Cancer* A H Roffo Buenos Aires 1944

A list of publications of bulletins of the Institute, reviews received by its library, courses given by the recently created chair of cancerology, the work of the Argentinian Society for the study of cancer, lectures given on the weekly conference hour and over the radio, the anti-tobacco crusade, creation of the cancer society in October 1942, the regional battle against cancer, courses given in the school of nurses, the library—all these various activities are described.

Floor plans and photographs of the buildings and medical activities add to the pictorial interest of the volume, which contains an excellent *exposé* of the crusade against cancer, not only in the Institute itself but in Argentina. The volume should be in the library of everyone interested in the cancer problem.

Bunnell's new book on *Surgery of the Hand* * is a masterly contribution to contemporary surgical literature and a veritable mine of information. It surpasses everything written on this subject in English or, for that matter, in any language. The text is clear and concise. Impressive illustrations supplement the text to the fullest advantage. To single out a particular chapter would do injustice to the others. Yet from a practical standpoint the section dealing with tendon repair, replacement and transplantation is particularly admirable in its perfection. Another highlight of the book is the chapter on the intrinsic muscles of the hand, reflecting the author's lifelong studies and most original contributions. If there is such a thing as a "best" scientific work on a particular subject, this certainly is representative of that class.

The excellent symposium on abdominal surgery in the *Surgical Clinics* ** for February, 1944 brings out the fact that both physiologic and pathologic abnormalities are encountered, and that knowledge of the abnormalities involved has caused a lowered mortality rate. While the authors do not touch directly on war surgery, many physiologic and pathologic conditions are a direct consequence of trauma, which is such a large factor in war surgery. The issue contains contributions by several members of the International College of Surgeons, namely, Drs. Moses Behrend, Raymond McNealy, Karl Meyer and Alfred Strauss. Alexander Brunschwig, Warren Cole and a number of other authorities have contributed articles on the operative phase of gallbladder, intestinal and abdominal disturbances. Illustrations, though few, are on the whole good. This is one of the customarily worthwhile volumes of the Clinics for 1944.

Samuel Weiss, who has had many years' teaching experience at the New York Polyclinic Hospital and has confined himself in his extensive private and hospital practice almost exclusively to diseases of the gall bladder and bile ducts, was well prepared to publish an instructive series of lectures on this subject.*** Some of the outstanding chapters are those on "Anatomy of the Biliary Tract,"

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* Surgery of the Hand. Sterling Bunnell. J. B. Lippincott Co., Philadelphia, 1944. $12.

** Surgical Clinics of North America. February 1944. Vol. 24, No. 1. W. B. Saunders Co., Philadelphia, 1944. Price, Cloth $16. Paper, $12.

*** Clinical Lectures on the Gallbladder and Bile Ducts. Samuel Weiss. The Year Book Publishers, Inc., Chicago, 1944.

"Physiology," and "History Taking." That contributed by Dr. Ernest E. Smith on "Radiology of the Gallbladder" and that by Dr. Harry M. Eberhard on "Diagnostic and Therapeutic Duodenal Drainage" are noteworthy contributions to the volume. The lectures are arranged in orderly fashion and cover the most important disturbances of the gall bladder and bile ducts thoroughly and adequately in a manner that is clear and understandable. The up-to-date bibliographies are of especial value. This book is recommended for the general practitioner, the internist and the gastroenterologist.

The latest edition of Babcock's *Principles and Practice of Surgery* * is without doubt one of the finest surgical texts to appear. The material has been brought up to date to include such branches of war surgery as artillery projectiles, blast injuries, gunshot wounds and modern chemotherapy. Chapter 14 on the lost art of bandaging is timely. The revision is thorough and the treatment of the subject matter interesting. The discussion of the Position on the Operating Table would have been more complete if it had included the effect of the various positions on the *rectus abdominis* muscle. Pages 1232–1234, which include the appendix, give normal blood and chemical constituents as well as functional tests. This information is especially valuable to the student. Such illustrations as those in Figs. 63, 64, 79 and 80 are excellent for teaching purposes, since they are more descriptive than many paragraphs. Fig. 191, however, shows a method of removing a Thiersch graft which would surely endanger the left hand of the surgeon if the razor were handled this way. In the lengend for Fig. 962 the name "Ochsner" is misspelled. This is mentioned because so many people mispronounce the treatment according to this erroneous spelling. On the whole the illustrations are excellent, the extensive bibliography is well placed and the book can be most highly recommended.

A genuine contribution to the field of gynecology and obstetrics has just been made by Clarence Taber and Mario Castallo with their compact, indexed dictionary ** printed in a legible type and convenient format. The comprehensive treatment of this specialized field is accomplished by the compiling not only of a specialized vocabulary, but also of a "subject" dictionary in which some topics are treated at considerable length. Subtopics have been listed in alphabetical order, a real time-saving device. Another valuable adjunct is the Fact-Finding Index, followed by the most frequently used medical abbreviations. Numerous excellent illustrations of various stages of parturition and of various positions of fetal presentation clarify the subjects treated. Taber's work, the only dictionary of its kind compiled to date, is of especial value not only to the gynecologist and obstetrician, but it also fills a long-felt need of the nurse and busy general practitioner.

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* Principles and Practice of Surgery. Wayne W. Babcock. Lea & Febiger, Philadelphia, 1944. $12.

** Taber's Dictionary of Gynecology and Obstetrics. Clarence Wilbur Taber and Mario A. Castallo. F. A. Davis, Philadelphia, 1944 $3 50.

From Mexico comes a fine monograph on cancer by Dr. Conrado Zuckermann, F.I.C.S.* Its one hundred pages are packed with suggestions for diagnosing, treating and preventing cancer. He devotes the first four sections to diagnosis of cancer in the early stage by clinical analysis and histopathologic study of the tissue removed by biopsy or of the tumor after operation. The author describes lucidly the procedure for the diagnosis of cancer of the skin, breast and accessible cavities of the body by palpation and other physical means, with special reference to cancer of the mouth and external genitalia, and ends with the hope that a laboratory procedure, a general reaction of the cancerous individual like the Wassermann reaction for syphilis, may in the near future make possible the early diagnosis of cancer of the stomach and other internal organs. Special sections are devoted to clinical diagnosis and surgical treatment of cancer of the breast, the cervix uteri, tumors of the breast and cerebral tumors. Zuckermann believes that modern nomenclature of brain tumors leaves much to be desired. Favorable prognosis of brain tumors depends on location of the tumor, its accessibility, extension and relations in the case of benign growths; in malignant growths histology plays an important rôle besides. Zuckermann concedes the possibility of hemotransmission of cancer by contact or by accidental inoculation of the cancerous cells to the surgeon through a wound during operation. Prevention of cancer depends on early clinical study of the case, radical removal of any suspicious neoplasm and avoidance of any undue chronic irritation. The activities of the Institute for the Prevention of Cancer in Buenos Aires, under the direction of Dr. Roffo, are described by Dr. Zuckermann.

The book is well written. The short but complete descriptions of the most recent studies on the etiology, diagnosis, treatment and prevention of cancer will be of interest to both surgeon and pathologist.

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* Cancer Studies. Conrado Zuckermann. Mexico, D.F., Mexico, 1944.

The Fifth International Assembly of the International College of Surgeons will be held in one of the Latin-American countries. The place and time of meeting will be announced in the next issue.

Original Articles

Congenital Parotid Sialectasis

HAMILTON BAILEY, F.R.C.S., F.I.C.S. (Hon.)
LONDON, ENGLAND

SIALECTASIS means literally a state of dilatation of the ductules and alveoli of any salivary gland or glands, but it is the parotid gland which is always affected. During the past eight or nine years I have encountered 1 example of bilateral (fig. 1) and at least 8 of unilateral intermittent enlargement of the parotid gland in which sialography revealed a varying degree of dilatation of the ductules and the alveoli, in most instances pronounced, but no demonstrable obstruction to Stensen's duct. Seven of the patients were under 12 years of age. One adult stated that she had had attacks of the trouble as long as she could remember.

Until recently I assumed that this dilatation of the salivary secretory mechanism was always the result of chronic infection of the parotid gland, and such a hypothesis has been accepted by Swinburne and others who have studied the condition. Undoubtedly, in most instances chronic infection is present; in several cases I sent a specimen of the saliva from the affected gland for bacteriologic examination and positive results were obtained, but no one organism could be held responsible. In view of the fact that in cases of stubborn chronic pyelitis without obstruction to the ureter I had achieved limited success from pelvic lavage, I proceeded to treat patients suffering from sialectasis by cannulizing Stensen's duct and injecting a 1 per cent solution of mercurochrome (merbromin). The patient or the parent was instructed to procure chewing gum (which is now difficult to obtain in England), and a simple mouth wash was prescribed. As a result of these measures, remarkable, if temporary, benefit appeared to accrue, but one by one the patients drifted away. It is understandable that as soon as the symptoms had subsided the mothers were reluctant to bring their children to the hospital for observation and further treatment. Several of the younger patients were lost sight of because they were evacuated from London. In 2 instances, owing to pressure of work, I

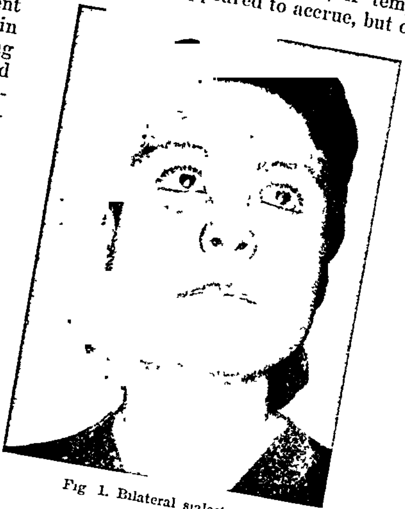

Fig 1. Bilateral sialectasis.

relegated the continuance of the treatment to an assistant, and in each case the assistant failed to cannulize the duct and the mother did not bring the child for treatment again. The adult patients, ceased to attend as soon as they were free of symptoms. So it comes about, I am ashamed to record, that for one reason or another I have been unable to obtain a really satisfactory follow-up of these 9 cases. I am left with the sialograms, two of which are reproduced (figs. 2 and 3).

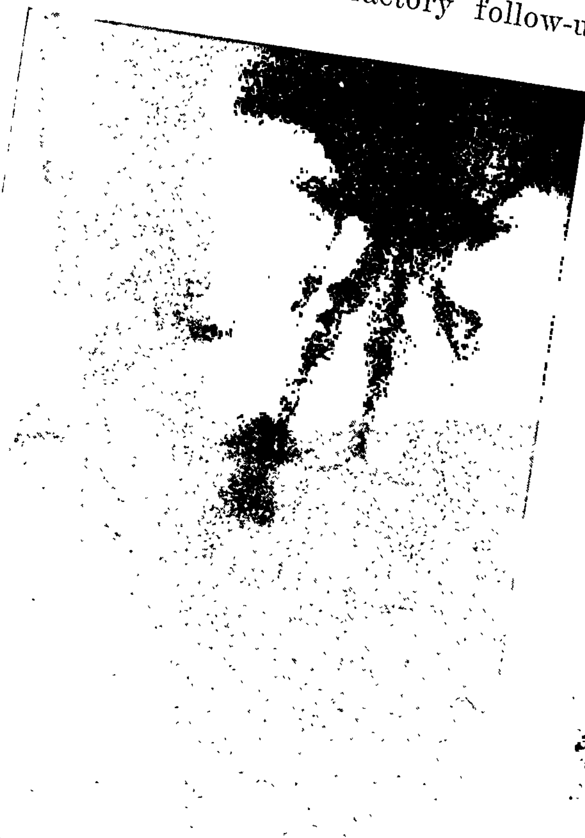

Fig. 2. Sialogram showing dilatation of the alveoli.

Paradoxically, the very fact of my failure to provide what I intended originally, i.e. a record of the end results of these 9 similar cases, emboldens me to continue my thesis that there exists a somewhat rare condition which is at present not recognized—*congenital* parotid sialectasis. My basis for describing it as a "new disease" is not the suggestive but inconclusively followed series of cases referred to above, but 2 additional well studied cases.

In both the latter cases the patients had for years wandered from doctor to doctor and from hospital to hospital, just as some of my aforementioned 9 patients are probably doing at the present time. It is for this reason (and I hope I have made it clear) that I state that my failure to follow up the 9 patients stimulates rather than inhibits me to put on record the condition from which I believe they suffer.

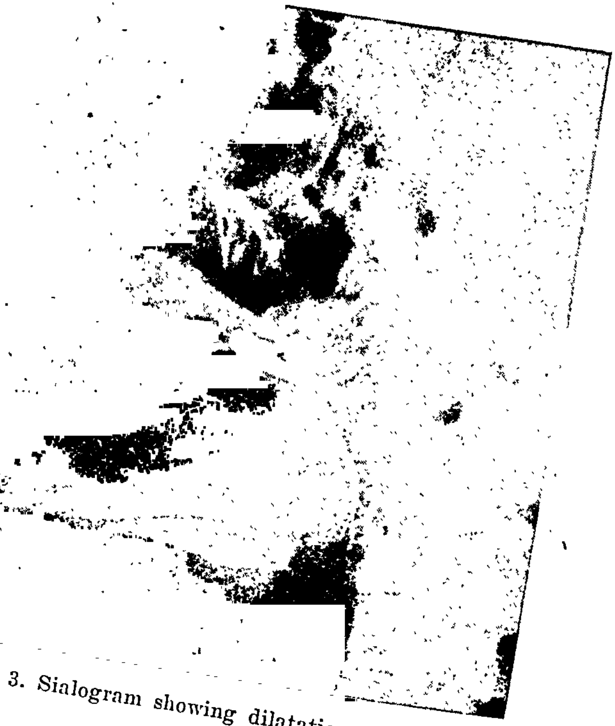

Fig. 3. Sialogram showing dilatation of the ducts.

The idea of likening sialectasis to bronchiectasis seems particularly happy. Bronchiectasis is in some instances congenital; in others it is the result of chronic infection or blocking of a large bronchus; in any case, the dilated bronchioles and alveoli become infected. Conservative measures, notably clearing obstruction to the exit of, and removing, stagnant infected secretion, together with introducing antiseptics, give temporary relief. For the more severe forms radical measures are indicated, and surgical extirpation of the diseased pulmonary lobe is often curative

The position regarding sialectasis is almost identical. Comparatively mild forms respond to conservative measures, notably dilation of Stensen's duct and antiseptic irrigations. When such measures fail, I consider that lobectomy or complete parotidectomy is indicated, and my two cases substantiate this contention

REPORT OF CASES

CASE 1 —R P , a boy aged 12, was referred to me in March 1941 by Dr Donald, of Romford, with enlargement of the right parotid gland large enough to cause considerable deformity (fig 4) This deformity was his mother's main reason for seeking a further opinion She stated that she first noticed the swelling when the patient was a few weeks old It had never disappeared, and since the age of about 3 years it had become noticeably larger in size She had sought advice on many occasions, and the patient had been intermittently under observation at a well known hospital, where he had been shown to the students, but it had always been decided that an operation should not be performed

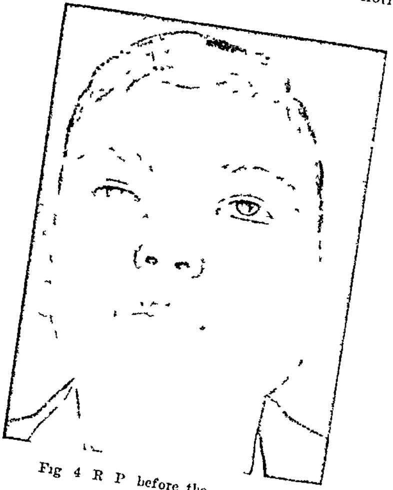
Fig 4 R P before the operation

There was a large swelling in the region of the right parotid gland It was soft and could be momentarily somewhat reduced in size by pressure of the flat of the hand As there was no history of pain or attacks of inflammation I considered that the most probable diagnosis was a venous hemangioma under the parotid fascia However, sialography revealed enormous distention of a large part of the parotid tree (The sialogram of this patient has been destroyed by enemy action during the war)

On April 25, 1941 I explored the entire parotid gland and dissected out the large superficial lobe, preserving the facial nerve and all its branches The superficial lobe was

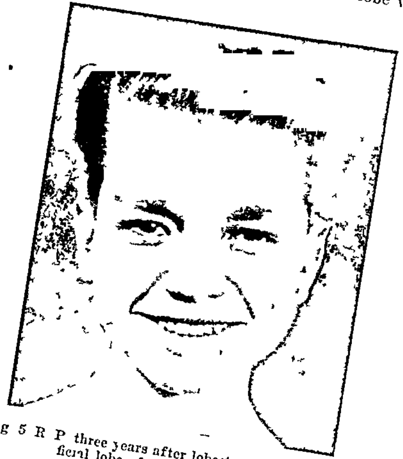
Fig 5 R P three years after lobectomy of the superficial lobe of the parotid gland

obviously diseased, and when I cut into the specimen it was seen to be riddled with cysts. As the cut surface of the parotid isthmus (see my description of the surgical anatomy of the parotid gland in the *British Journal of Surgery* [1]) looked normal and the deep lobe of the parotid gland felt of normal consistency, I left this lobe undisturbed and closed the wound with corrugated rubber drainage. The wound healed well, without any leakage of saliva, and the end result is entirely satisfactory. Figure 5 shows the patient three years after the operation.

CASE 2.—J. W., a girl aged 8 years, was sent to me by Dr. Hayes, of Potters Bar. Her mother stated that when the child was 1 year old a swelling appeared in front of the ear. The swelling was red at first and then became mauve. The physician in attendance said that the baby was suffering from mumps. The swelling went down in three days. At the age of 3 she had a second attack, which lasted for four days. This was more severe; the jaw "stuck right out" and the temperature was high. The doctor ordered kaolin poultices. The third attack occurred a year later; it was treated in the same way, and the physician said it was due to cutting teeth. When the child was 5 years old a fourth attack occurred. This was more severe than any of the previous ones, and the patient was sent to a hospital. For five days she was very ill, and the mother says the doctors "could not make it out." However, resolution occurred and normal health quickly followed, and the child was discharged without further investigation. The fifth attack took place when she was 7 years old and lasted for a week; the temperature on this occasion was about 100 F. Another doctor was now in attendance, and he diagnosed mumps. The sixth attack occurred when the patient was 8 years of age; on the third day of the attack she was sent to a children's hospital, as before. Those in attendance were puzzled as to the diagnosis, and after the attack had subsided she was referred for observation to the outpatient department. The seventh attack occurred when she was 9. She complained of severe pain at the back of the head, and on this occasion not only was there swelling of the whole parotid region, but the corresponding side of the neck was intensely inflamed. This attack lasted eight days and then began to subside. It was as this severe attack was subsiding that Dr. Hayes called me to advise. Sialography proved the diagnosis of sialectasis (fig. 6).

On June 15, 1944 I exposed the whole of the parotid gland and the external carotid artery and, after ligating the latter, performed complete parotidectomy. Six months later the result is eminently satisfactory; there is no facial palsy and the scar is far less discernible than figure 7 would lead one to believe. A photomicrograph of the section of the excised parotid gland is shown in figure 8.

SUMMARY

In 2 cases frequently recurring chronic sialectasis without demonstrable obstruction to Stensen's duct was thought to be congenital. One patient was cured by surgical removal of the diseased superficial lobe of the parotid gland. For the other patient complete parotidectomy was necessary.

In 9 other cases of a similar type of sialectasis, in which for one reason or another it was not possible to continue observation and treatment, it was suspected that the condition was congenital. The existence of a hitherto unrecognized disease, congenital parotid sialectasis is suggested.

SUMARIO

Dos casos crónicos de sialectasia sin obstruccion demostrable del canal de Stensen se interpretaron como de origen congenital. Un de estos casos fué curado por la extirpacion quirurgica del lobulo superficial de la glandula parotida. El segundo caso fué operado por completa (parotidectomía) extirpación.

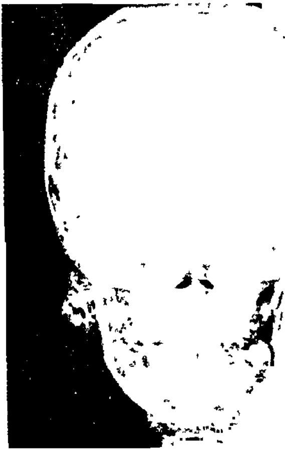

Fig 6 Sialogram of J W., showing the great dilatation of the secretory collecting mechanism of the right parotid gland.

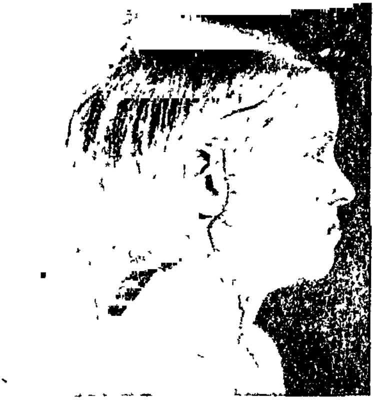

Fig 7. J. W. soon after the stitches were removed, showing the incision for complete parotidectomy with preliminary ligature of the external carotid artery. This formidable incision eventually became barely perceptible. There is no facial weakness or paralysis.

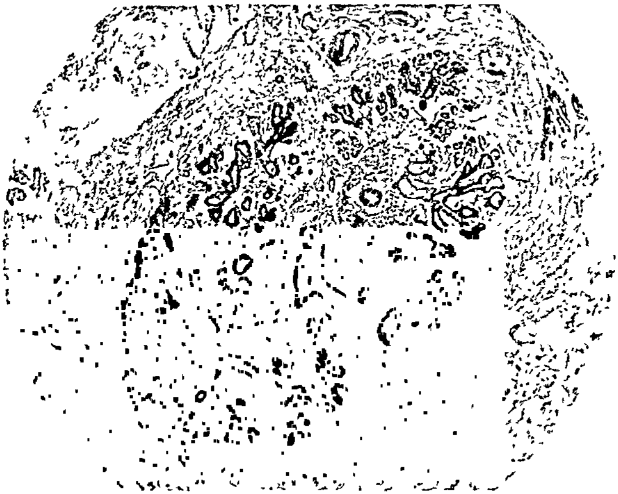

Fig. 8 Photomicrograph showing sialectasis (section prepared by Dr. J. G Greenfield).

En otros nueve casos de semejanza en tipo de lesión (sialectasia) en que por una razón u otra no fué posible continuar la observacion y el tratamiento se sospechó que la lesion era congenital.

Con la existencia, a veces, de lesión de origen desconocido se sugestiona aqui la sialestasia congenital de la parotida.

RÉSUMÉ

Dans deux cas de sialectase chronique, l'obstruction du conduit de Stensen était probablement congénitale. Un malade fut guírie par l'ablation chirurgical du *lobule superficiel infecté de la glande* parotide. Chez l'autre malade, on fit l'ablation totale de la glande parotide.

Dans neuf autre cas de sialectase semblable, dans lesquel pour une raison ou une autre il n'était pas possible de surveiller le malade ou de continuer le traitement, nous étions d'avis que la condition était congénitale. Le sialectase parait être une entité clinique d'ont il ne faut pas méconnaître l'existence.

Выводы

Предположено, что два случая хронического сиалэктаза без доказанной обструкции стэнтонового протока были прирожденными. Один больной был вылечен хирургическим удалением вовлеченной поверхностной доли околоушной железы. Для другого больного была необходима полная паротидэктомия.

В девяти подобных случаях сиалэктаза, в которых почему либо невозможно было продолжать наблюдение и лечение, было заподозрено, что это состояние было прирожденным.

Поэтому предлагается признать существование до сих пор непризнанной болезни, именно прирожденного сиалэктаза околоушной железы.

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Acknowledgments

The *Journal* wishes to acknowledge receipt of the following publications sent to the Editorial Department:

Argentina

Archivos Americanos de Medicina (Buenos Aires) Tomo XX, Nos. 2, 3 and 4, June, Sept. and Dec., 1944.

Archivos Argentinos de Tisiología (Buenos Aires) Tomo XX, Nos. 1 to 4, Jan.-Mar. to Oct.-Dec., 1944.

Boletín del Instituto de Clínica Quirúrgica (Buenos Aires) Año XX, Nos. 163 to 166, Jan.-Feb., Mar., Apr. and May, 1944.

Boletines de la Sociedad de Cirugía de Rosario (Rosario) Año X, Nos. 7-8, Oct.-Nov., 1943; Año XI, Nos. 1 to 7, Apr. to Oct., 1944.

Divertículos Idiopáticos del Duodeno. Manuel S. Guitarte. "El Ateneo." Buenos Aires, 1941.

Infarto Hemorrágico del Pulmón. Roberto A. Gini, Aniceto López. Buenos Aires, 1942.

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La Revista de Medicina y Ciencias Afines (Buenos Aires) Año VI, Nos. 4 to 11, Apr. to Nov., 1944.

Revista Argentino-Norteamericana de Ciencias Médicas (Buenos Aires) Año I, Nos. 10 to 12, Feb. to Apr., 1944.

Revista de la Sanidad Militar (Buenos Aires) Año XLIII, Nos. 3 to 11, Mar. to Nov., 1944.

Revista de Medicina Cancerología (Rosario) Año XVIII, Tomo XVIII, Nos. 167 to 171, 1944.

Revista Médico-Quirúrgica de Pathología Femenina (Buenos Aires) Año XII, Tomo XXIII, Nos. 3 to 9, May to Nov., 1944.

Revista Oto-Neuro Oftalmológica y de Cirugía Neurológica Sud-Americana (Buenos Aires) Tomo XIX, Nos. 3-4 to 11-12, Mar.-Apr. to Nov.-Dec., 1944.

Variaciones Respiratorias del Electrocardiograma. Jorge Gonzalez Videla. "El Ateneo," Buenos Aires, 1942. .

(Continued on page 139)

Mixed Tumors of the Salivary Glands: A Critical Review of Fourteen Surgically Treated Cases

GEORGE B. KENT, M.D., F.A.C.S., F.I.C.S.
KENNETH C. SAWYER, M.D., F.A.C.S., F.I.C.S.
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REPEATED admonitions concerning the rarity of mixed tumors of the salivary glands by individuals and groups of individuals having the opportunity to see many tumors of all types make surgeons with even a modest series hesitant to report their cases.

The fact that the authors have operated on fourteen mixed tumors of the salivary glands over a period of seventeen years with almost universally good results leads us to believe that one or more of several factors are responsible for these apparently favorable statistics. It is felt that either (1) the tumors that have been removed were not true mixed tumors, (2) that an insufficient number of cases have been seen, (3) that the follow up on the cases has not been sufficiently long to be significant, (4) or that radical, and sometimes necessarily mutilating surgery will cure these cases in nearly every instance. The findings are presented because it is felt that the experience gained in one community where the patients are inadvertently seen frequently over a period of years would be of interest to the profession.

The debatability of the origin of salivary gland tumors,[1, 2, 3, 4, 5, 6, 8] the variable criteria of benignancy and malignancy used by different clinics, sections and individuals, and the inconclusive standards established as to just what a mixed tumor of the salivary glands is, make a review of the literature of little value to the average surgeon. For these reasons the reader is referred to a few key articles,[9, 10, 11, 12, 13, 14, 15, 16, 17] and the discussion of our own tabulations will be presented.

AGE

Salivary tumors may appear at any age. McFarland[18] stated that 50 per cent of mixed tumors of the salivary glands occurred among persons between the ages of 20 and 40 years. In our series of fourteen cases, seven (or 50 per cent) were between the ages of 20 and 40 years, but the average for the entire series was 44.2 years. The youngest patient was 27 and the oldest 64 years of age. These figures, however, represent the average age of the patients at the time of the removal of the salivary tumor. In computing the onset age, it was found that many of the patients had had a salivary gland tumor at a much earlier age. For example, *Case 4* was 47 years old at the time of the removal of a large mixed tumor of the right parotid gland, which had been present, to the patient's knowledge, for twenty-five years. *Case 6* had had a tumor of the right parotid gland for ten years which was removed when the patient was 30 years of age. The 64 year old patient, *Case 8,* had had a tumor of the right parotid gland for thirty years. By subtracting the length of time that the tumor had been present at the time of operation, an estimate of the onset age was placed at 36 years, which is in keeping with the findings of Singleton,[13] Stein and Geschickter,[12] and others who have reported large series of cases.

SEX

The sex incidence was much higher in the female than in male patients, the ratio being 11:3.

RACE

All the patients in this series were white, native Americans. Six of the fourteen patients were born in Colorado. This factor is of no significance in attempting to compute race incidence of tumors of the salivary glands because it is seldom that a colored private patient is seen in this section.

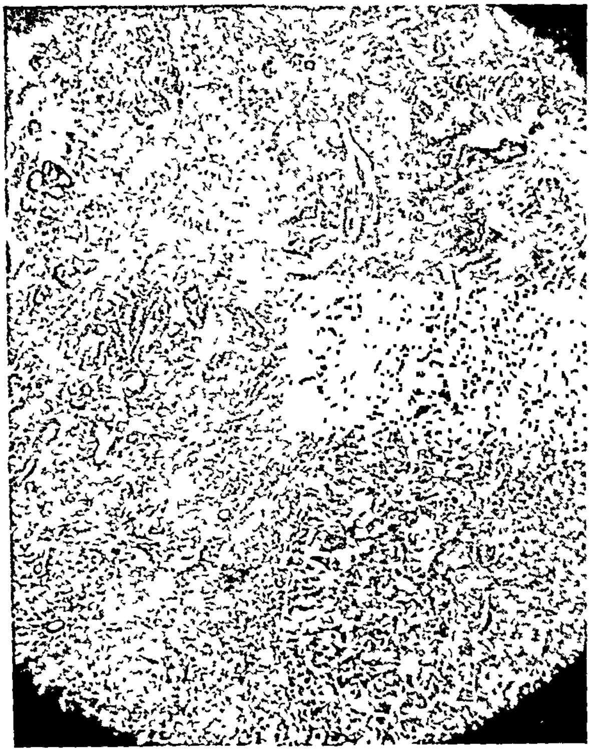

Fig. 1. Section of left parotid region. Patient 31 years old: tumor of eight years duration. The light area in the left center is hyalin and fibrous tissues surrounded by heavy acinar tissue, while in the upper right appears structure of a more normal appearing gland

GLAND INVOLVED

The parotid gland was found to be the most common location of mixed salivary gland tumors in this series, six cases occurring in the right parotid gland and six cases occurring in the left parotid gland. The two remaining cases were in the left submaxillary gland.

PATHOLOGY

The pathologic material studied was confined to a review of the records from the standpoint of gross pathology, because none of the specimens were available. The microscopic study, however, was more complete, as carefully prepared sections of each tumor had been saved. Typical examples may be seen in the accompanying illustrations (Figs. 1, 2, 3 and 4). Grossly, all the tumors but one (*Case 11*) were unicentric. The sizes varied from .5 to 7 cm. The average mean diameter of all the tumors was 2.9 cm.

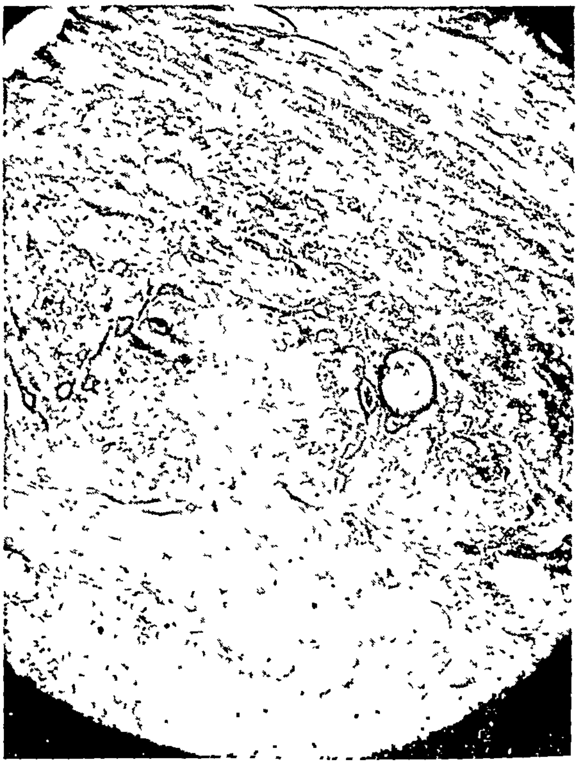

Fig. 2. Left parotid gland of a 48-year-old patient with tumor of eight years duration. Osteoid tissue is on the right and is separated from the acinar tissue on the left by fibrous tissue. There is dense infiltration of the acinar tissue with lymphocytes.

All of the lesions except one were well encapsulated and in every case the tumor was situated well within the substance of the gland involved, in one instance being contiguous to the inner lamina of the capsule of the right parotid gland. The color of the cut section, when given in the records, was invariably red. One case (*Case 6*) in which the tumor had been present for thirty years showed bone grossly in cut section. The pathologist mentioned in four, or approximately 37 per cent, of the cases, that the tumor mass was nodular. The consistency of the tumor was noted in nearly every gross record and was said to be firm, fibrous or cartilaginous in all instances. On gross examination the presence of cartilaginous tissue was noted in two cases, while small cystic areas were discernible without the aid of the microscope in two instances. Degeneration, described as "muco-gelatinous" in two instances and as myxomatous in one other, was present. Many of the specimens were accompanied by one or more lymph nodes, none of which showed the presence of neoplastic tissue.

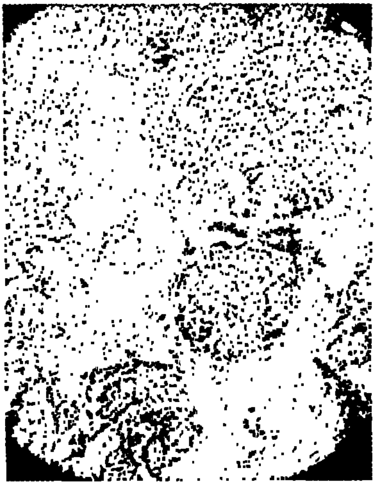

Fig. 3. Right parotid gland of a 64 year old patient. Duration of tumor, characterized by fibrosis, was thirty years. Fibrosis characterizes it.

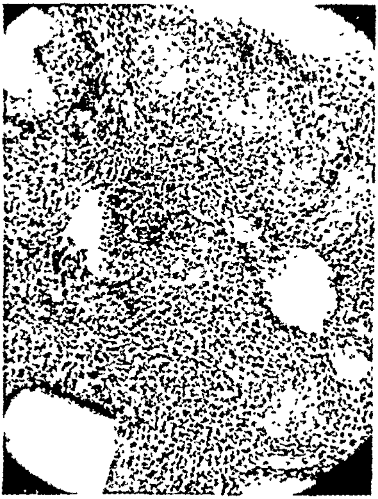

Fig. 4. Left parotid gland of a 53 year old patient. This tumor was only two or three years old and characterized by pleomorphism.

The microscopic sections showed epithelial and stromal elements; the epithelial tissue was arranged in strands in some instances and in islands in others. There was no tendency toward irregular arrangement. The cellular and stromal elements varied considerably in relative amounts of each; nothing constant was found: no well-defined mitotic figures or cells of an aplastic nature were found. Cartilaginous tissue, usually appearing as isolated islets of cartilage, was shown in seven, or 50 per cent, of the sections. Four cases showed a considerable amount of hyaline tissue. Two cases showed the presence of myxomatous tissue. The gross bone finding was confirmed by the discovery of osteoid tissue in one instance; a large area of calcification was found in one tumor.

The capsules were variable in thickness and density and intact in nine of the fourteen specimens. In five cases the capsule was ruptured. It was significant that the degree of differentiation between the capsule tissue and the tumor proper was exceedingly variable.

SYMPTOMS

The only constant symptom was the presence of a "lump," "mass" or "swelling." This finding was noted in twelve, or 85 per cent, of the patients. It was described as being in front of the ear in three instances; beneath the ear in three cases and behind the ear in another. Four of the patients described their symptoms as a "lump" or "mass" in the neck. The tumors were discovered incidentally in two cases. Only three persons, or 22 per cent, complained of pain. The average duration of symptoms was 7.6 years; the extremes being one month and thirty years. The tumor was discernible to the point of causing asymmetry in seven, or 50 per cent, of the cases and unsightly in five, or 35 per cent. There was no incidence of facial palsy or limitation of mandibular movement sufficient to make opening the mouth difficult. A history of extremely rapid growth of the tumor mass occurred twice. These last three symptoms are considered the only indications for operation by some men having a wide experience with this type of tumor. McFarland[9] reported that small tumors of the salivary glands recur more frequently than the larger ones. This fact has not been confirmed by other writers, however. Our policy has been to remove all salivary gland tumors when discovered regardless of size, location or length of time present.

In reviewing the operative records of the patients in this series, it was found that in seven, or 50 per cent, of the cases, the operation was performed under ether anesthesia; local anesthesia was used in three cases and ethylene in four. It is felt that ether is the anesthetic of choice, because of its wide margin of safety. The anesthetist can watch for any temporary change in facial expression, and by using the ether hook or intertracheal tube through the nose, the anesthetist can remain well out of the operator's way. The patients are all ambulatory, so postoperative pulmonary complications are rarely a factor. Local anesthesia proved unsatisfactory. This can probably be explained by the fact that all salivary tumors usually turn out to be much more extensive than originally contemplated.

Little need be said about the operative technic except that the surgery should be adequate. Whenever possible, an incision running transversely across the face should be used, and an effort should be made to preserve vital structures when this does not interfere with the block removal of the tumor. If there is any doubt, the nerve, vessels or ducts in the gland should be sacrificed. In this series the tumors were removed by the block method in ten, or 71 per cent, of the cases. In the two submaxillary tumors the entire gland was removed and the digastric triangle widely dissected. The tumor was ennucleated in two cases. The simple shelling out of a salivary gland tumor is a hazardous procedure. In the adequate removal of mixed tumors occurring in the salivary glands, complications must be expected. In the fourteen operations in this report six of the patients had a resultant facial paralysis, which was permanent though not extensive in three instances. A temporary salivary fistula ensued in two (14 per cent) of the operated cases (*Cases 2 and 3*). In one case (*Case 3*), Stensen's duct was completely divided and repaired by passing a No. 5 catheter one inch into the proximal end of the duct, then through the distal end to the vestibular orifice of the duct. The two ends of the duct were anastomosed around the catheter with fine silk thread. The portion in the mouth was sutured to the mucosa of the mouth along the buccal reflection of the mucous membrane beneath the upper lip. The patient suffered no inconvenience; the operative wound was dry in six weeks and the duct has remained patent for a period of over seven years. It has been our policy to swab the wound out with Herrington's solution, especially if the capsule of the tumor was ruptured at operation. All wounds were drained with a small stiff tube drain and closed with interrupted sutures. The drain tube is routinely removed the day after operation.

The minimum hospitalization period for any patient was two days, the maximum thirteen days, and the number of days in the hospital for the entire group averaged four days. Ten, or 71 per cent, of the wounds healed by primary intention and did not drain after the patients left the hospital. Four cases drained profusely, one for sixty-five days. However, there was no incidence of infection in any instance, probably because of the abundant blood supply to the salivary glands.

X-RAY

McFarland,[19] in analysis of sixty-one cases of salivary gland tumors treated by fifteen or twenty different radiologists, by a variety of technics and over a sufficiently long period of time to have permitted all varieties of treatment to be tried, stated, "in spite of all the opportunities afforded, the results of roentgen ray and radium have uniformly failed." This view is quite widely accepted by roentgenologists the country over. Only two cases in the present series had x-ray therapy. *Case 5* had a recurrence which responded to x-ray almost immediately. *Case 11* was irradiated because of considerable tumor cell contamination due to rupturing the capsule of the tumor in removing it. It has been sixteen and one-half years since the patient's operation and there has been no evidence of recurrence. Philpott,[20] who has seen a considerable number of mixed tumors of the salivary glands, stated that he had had good results with irradiation therapy. He preferred to treat all suspected mixed tumors of the salivary glands in this manner rather than to accept the consequences of the radical removal of a tumor that is considered by him to be not too malignant. We prefer to be sufficiently radical in the original operation to obviate the necessity of any irradiation therapy.

RESULTS

The results in this small group of cases have been uniformly good. There was one recurrence which responded to irradiation therapy. The follow-up on the series has been completely satisfactory as all the cases were from our own community. It has varied in time from six months to sixteen and one-fourth years, the average follow-up period being eight and seven-tenths years. We feel that to date this period has been insufficient to draw any definite conclusions as to final end results because ten, twenty, thirty or forty years may pass before a recurrence presents itself.[9] We should like to stress the fact that the tumors dealt with in this series were mixed tumors *and not malignancies* of the salivary glands. The one patient with carcinoma of the right submaxillary gland seen by us succumbed six months after first presentation, in spite of the fact that a block dissection of the right side of the neck and a very intensive course of x-ray and irradiation were employed in an endeavor to prolong the patient's life.

SUMMARY

Fourteen cases of mixed tumors of the salivary glands were reviewed in an attempt to obtain some orientation on the condition. It was concluded that while the results on the series to date had been very satisfactory, the number of cases treated was too small to be significant. It was also concluded that the follow-up, while thorough, had not been long enough to properly evaluate the ultimate end results. All cases were treated by extremely radical removal of the growth. While the incidence of postoperative facial deformity was quite high in the series, it was felt that this was definitely a factor in the good results obtained up to this date.

SUMARIO

Catorce casos de tumores mixtos de la glándula salival fueron analizados con objeto de obtener orientación sobre esta lesión. Llegamos a la conclusión que aunque los resultados de esta serie de casos, hasta la fecha, han sido satisfactorios, el número de casos que fueron tratados es muy pequeño para ser de importancia. Aún cuando estos casos han sido observados diligentemente el tiempo ha sido muy corto para evaluar los resultados finales.

Todos los casos fueron operados radicalmente. La incidencia de parálisis facial después de las operaciones fué muy alta en esta serie y nos deja la convicción que éste es un factor en los buenos resultados obtenidos hasta la fecha.

RÉSUMÉ

Quatorze cas de tumeurs mixtes des glandes salivaires furent étudiés, afin d'obtenir une orientation sur cette condition. Quoique les résultats de cette série soient satisfaisants, le nombre de cas est trop restreint pour former des conclusions et aussi le temps écoulé est trop court pour nous autoriser à formuler des évaluations sur les résultats ultimes. Tous les cas furent soumis à un enlevement radical du néoplasme. La déformité faciale postopérative résultant de nos opérations fut grande, mais cela est un facteur important des bons résultats que nous avons obtenus.

Выводы

Для лучшаго понимания гетерогенных опухолей слюнных желез рассмотренны 14 случаев этой болезни. Было сделано заключение, что, хотя результаты этой серии были очень удовлетворительны, количество случаев было слишком незначительно для постановки каких бы то ни было определенных заключений; также, что после-операционное наблюдение, хотя и очень полное, было слишком кратким для полной оценки конечных результатов. Во всех этих случаев было сделано очень радикальное удаление опухоли. Хотя такая операция ответственна за большое искажение лица, все же этот способ является определенным фактором в достижении полученных до сих пор хороших результатов.

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Pentothal Sodium Anesthesia in Major Surgery and Its Dangers

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THE introduction of an anesthetic by the intravenous route is the ideal method of anesthetization, inasmuch as the drug is brought through the circulation into direct contact with the brain centers, the cortex and hypothalamus, which are responsible for the anesthesia. One is not forced to use an intermediate organ, like the lungs or the large bowel, to bring the anesthetic in contact with the circulation. Of course a substance must be found which in the proper strength will not injure the vessel walls and will not exert toxic by-effects when used for surgical anesthesia. Individual variability must be borne in mind.

In 1905 Fedorow and Jeremitsch, of Petrograd, used hedonal (methylpropylcarbinolcarbamate) intravenously. In 1909 Burkhardt used ether in saline solution intravenously. In 1929 Kirschner used solution of tribromoethanol (avertin) with amylene hydrate by the intravenous route. These drugs never gained acceptance by the medical profession owing to the many complicating factors encountered, such as thrombosis, respiratory depression and prolonged unconsciousness after termination of the anesthesia.

The first barbiturate to be used intravenously with good result was somnifene (somnifen; somnifaine), a mixture of diethyl and allylisopropyl barbiturate (1911). It has been used extensively in psychiatry as a strong, reliable sedative to control stages of excitation by causing sleep. Bumm introduced pernoston (butylbetabromoallylbarbituric acid) in 1927. This drug proved helpful as a preoperative sedative (Schlaepfer) and for anesthesia of short duration. It was the best intravenous anesthetic available prior to the introduction of evipal. In 1929 Zerfas introduced sodium amytal. Its action on different individuals varied greatly. Determination of the proper dosage necessary to obtain a smooth anesthesia proved difficult. A preliminary stage of great excitation or prolonged steep of several hours after the operation was not infrequently encountered. Weese and Scharpff in 1932 first employed evipal sodium (sodium N-methylcyclohexenylmethylbarbiturate), which enjoyed extensive use, particularly in Europe. Lundy and Tovell in 1934 introduced pentothal sodium (the monosodium salt of 5-ethyl-5-[1-methylbutyl]-thiobarbituric acid). It has gained general acceptance because of its rapid and powerful action without an initial stage of excitation. Relaxation is satisfactory. Postanesthetic nausea and vomiting are rare. If it is properly given by a competent anesthetist, recovery is rapid.

All barbiturates, including pentothal sodium and evipal sodium, act primarily on the hypothalamus (Pick), whereas the gaseous anesthetics influence the cortex of the brain. Hence the barbiturates yield smooth anethesia without initial irritation such as is encountered with the gases. Both types of anesthetics are protoplasma poisons.

Reynolds divided the barbiturates into two classes:

1. The long-acting barbiturates (including pentobarbital sodium, amytal and pernoston. Their drawback is pro-

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longed depression and delayed recovery, frequently accompanied by restlessness.

2. The short-acting barbiturates (including evipal sodium and pentothal sodium). They guarantee a rapid induction of anesthesia and quick recovery with practically no postoperative morbidity. Pentothal sodium has the advantage of giving a more prolonged and smoother anesthesia with a greater degree of muscular relaxation. Muscular twitching or jactitation is frequently encountered with evipal sodium (Cooper) but not with pentothal sodium.

All barbiturates belong to a group of drugs which have a much greater effect when administered in divided smaller doses than when given in one large dose. The initial dose makes the organ of effect more susceptible (sensitization) to subsequent small doses (Buergi). The subsequent doses must therefore be carefully graduated to the minimal amount necessary, to avoid overdosage with detrimental result. Administration of pentothal sodium follows this rule. The initial dose is guided by the unconsciousness obtained, by the relaxation and by the shallowness of respiration. A second small dose, not exceeding 1 cc., is indicated only if the patient shows signs of pain as evidenced by increased respiration, slight phonation or movements.

To gain valuable clinical experience concerning the action of barbiturates on a given patient, we are in the habit of giving a barbiturate (pentobarbital sodium) in medium dosage the night before the operation. The resulting sedation gives the anesthetist a clue as to what reaction he can expect the next day when administering pentothal sodium for surgical anesthesia. We never give another dose of the barbiturate preoperatively, for the action of the original preoperative dose is still in effect when the intravenous anesthesia is started. If another dose of pentobarbital were given, synergistic action would very likely occur and complicate the determination of the dose of pentothal sodium necessary for the induction of the surgical anesthesia.

The importance of gauging the supplementary injection of pentothal sodium carefully is illustrated by the following case:

M. W., a woman 51 years of age, underwent a thyroidectomy under pentothal sodium anesthesia induced with the 2.5 per cent solution (2 Gm. given in one and one-half hours). When the incision was being closed the patient moved slightly and moaned for a moment. The anesthetist injected several cubic centimeters of the 2.5 per cent solution rather rapidly. Deep anesthesia followed. At the end of the operation the pulse rate was 80, the respiratory rate 22 and the blood pressure 180/120. The patient was returned to her room, and 1,000 cc. of 5 per cent dextrose in lactate-Ringer (Hartmann's) solution was given intravenously. She remained unconscious for four hours. Pentamethylenetetrazol,* in a dose of 3 cc. of 10 per cent solution, was then given intravenously, and oxygen was administered through a nasal catheter. Five hours after the operation she responded but was drowsy. Intravenous administration of 5 cc. of a 25 per cent solution of nikethamide ** (pyridine-3-[β]-carboxylic acid diethylamide; N, N-diethylnicotinamide) did not change the picture. One thousand cubic centimeters of 5 per cent dextrose solution was given intramuscularly. The condition remained unchanged until seven and a half hours after the operation, when respiration ceased completely. The heart action was normal with good pulse. A resuscitator was applied and kept in action continuously. Intermittent intravenous stimulation with nikethamide, pentamethylenetetrazol, caffeine with sodium benzoate, alpha lobeline hydrochloride and picrotoxin administered at short intervals for the next nine hours in addition to the resuscitator proved ineffective. No spontaneous respiration was brought on. The patient died of heart failure sixteen and a half hours after the operation and nine hours after respiratory failure.

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* The preparation used in the work reported was metrazol.

** The preparation used in the work reported was coramine.

Although autopsy was unobtainable, I assume that multiple mural thrombi impeded the circulation increasingly. Such a condition was observed at the autopsy in an analogous case with death from ethylene anesthesia following a hysterectomy (woman, 41 years of age). Complete respiratory failure for forty-five minutes at the conclusion of the operation proved fatal. In our case the supplementary injection of pentothal sodium at the end of the operation paralyzed the already depressed respiratory center too much, and the damage proved irreparable. Pentamethylenetetrazol, nikethamide and alpha lobeline in the presence of great respiratory depression often act as additional respiratory depressants. Immediate transfusion of plasma followed by a more effective blood transfusion is the best antidote under these circumstances, in conjunction with picrotoxin and oxygen administered by nasal catheter.

A second factor of danger to be observed in the use of pentothal sodium in major surgery is the preoperative and postoperative sedation. A preliminary dose of an opiate undoubtedly facilitates the induction of pentothal sodium anesthesia. However, opiates and all related substances depress the cerebral cortex as well as the hypothalamus. They are respiratory depressants. They reduce the volume and frequency of respirations. Cumulative action is likely to occur when one uses a second respiratory depressant, such as pentothal sodium. Addition of atropine to the opiate used will effectively counteract the respiratory depression.

In giving opiates one may avail oneself of Buergi's divided dose method (*Teildosenpotenzierung*). Buergi's explanation for the cumulative action of drugs given in divided doses is the following: The organ on which the drug is acting can absorb more of this substance if it is given in smaller doses at short intervals than if it is given in one large dose. This rule holds true for numerous drugs as tested experimentally by Buergi and his associates. The first dose sensitizes the organ for the particular drug. The interval between the two doses has to be timed in such a way that the effect of the first partial dose has not vanished when the second one is given. Even so, individual variations will be encountered. For opiates, five to ten minutes between the two injections was found to be the most suitable interval. An attempt to divide the intended dose into three or four parts and give it separately at short intervals did not prove successful (Beinaschewitz). Uchida and Jaichera made the interesting observation that when the divided dose method was used with opiates the narcotic action was much intensified without any respiratory depression.

The following case illustrates the point of gauging the preoperative sedation according to the age and physical condition of the patient:

M. S., a 14 year old girl, anemic (3,550,000 red blood cells and 9.5 Gm. of hemoglobin) was given 1/12 grain (5 mg.) of morphine sulfate and 1/250 grain (0.25 mg.) of atropine sulfate in a single dose one hour preoperatively. Saucerization of an osteomyelitic focus of the left femur with the patient under pentothal sodium anesthesia (0.5 gm. in 2.5 per cent solution for one hour) was almost terminated when breathing stopped and the pulse became imperceptible. Use of a resuscitator and intravenous infusion of 5 per cent dextrose solution, 3 cc. of 10 per cent solution of pentamethylenetetrazol and 500 cc. of plasma supplemented by blood transfusion corrected the condition.

In using opiates preoperatively, Buergi's divided dose method will prove helpful for obtaining the necessary sedation with less danger of toxic effect. A smaller total amount will suffice than when only one dose is given. Kocher used this divided dose method for opiates successfully in his clinic. If 0.01 Gm. (1/6 grain) of morphine sulfate was prescribed it was given in two doses of 0.005 Gm. each with a five minute interval. The effect was a multiple of that of a single injection of the total dose. An additional aid when one is using opiates preoperatively is the simultaneous injection of papaverine, which increases the action of opiates 20 to 30 per cent (Zeelen).

The same factors mentioned as useful before the pentothal sodium anesthesia should prove valuable if sedation is necessary after the operation. However, the use of opiates should be delayed as long as possible, and they should be administered only in smaller and divided doses, as previously mentioned. The following case is illustrative of this frequently occurring situation:

L. C., a 22 year old woman, anemic (3,300,000 red blood cells and 9.5 Gm. of hemoglobin) had a dilation and curettage done for persistent chronic endometritis. Pantopon (a mixture of hydrochlorides of opium alkaloids), 1/3 grain (0.02 Gm.), and atropine sulfate, 1/150 grain (0.4 mg.), had been given one hour before the operation, followed by pentothal sodium in 2.5 per cent solution (0.75 Gm. in twenty-five minutes). The patient was returned to her room in good condition. One hour after the operation she was moaning and extremely restless. Dihydromorphinone (dilaudid) hydrochloride, 1/20 grain (3 mg.), was given. One-half hour later the patient suddenly became very cyanotic and respiration ceased. Artificial respiration was started. Repeated intravenous injections of pentamethylenetetrazol and nikethamide at short intervals proved successful. After one and one-half hours the patient was breathing regularly, conscious and asking for water, A blood transfusion was given to prevent any relapse.

Among the opiates used for sedation, pantopon proved far superior to morphine. Pantopon contains all the alkaloids of opium in the same proportion as they are encountered in the poppy juice. It is normalized to contain 50 per cent morphine (Buergi). Axelrod made extensive clinical studies of the use of opiates preoperatively in combination with barbiturates. He prefers pantopon to morphine. He concluded that in certain cases morphine is not well tolerated and provokes violent cerebral phenomena of excitation followed by comatose depression, whereas pantopon in relatively small doses induces sedation followed by a sound sleep. Pantopon is less depressing to the respiration and less apt to cause nausea and vomiting.

Dihydromorphinone (dilaudid) hydrochloride has been used extensively in my work. Respiratory depression is likely to be observed, particularly when this drug is given postoperatively in instances in which depression is already present. Thomas had a similar experience. He therefore recommended the use of codeine postoperatively in all cases in which pentothal sodium anesthesia is associated with marked respiratory depression, if sedation becomes necessary. A combination of papaverine with codeine will potentiate the sedative action.

When respiratory depression becomes severe after pentothal sodium anesthesia, the following analeptics are available, besides oxygen given by nasal catheter and plasma and blood transfusions:

Pentamethylenetetrazol constitutes a quick-acting intense respiratory and circulatory restorative. It has a wide margin of safety. Androp used 36 cc.

of a 10 per cent solution of this drug in a case of barbiturate poisoning without any undesirable by-effects. Kallner used 237 cc. without ill effect. The dosage of pentamethylenetetrazol must be regulated according to the rapidity of improvement in a given case. It can be advantageously combined with nikethamide (diethylamide of nicotinic acid). The action of nikethamide is slower but has a longer duration. This drug has a wide margin of safety. Nikethamide, as a derivative of nicotine, might have an effect similar to that of the parent substance, which was experimentally tested by Buergi on rabbits. He found it to have a primary stimulating and a later paralyzing action on rabbits under the influence of morphine. When alpha lobeline hydrochloride was added the secondary paralyzing action of nicotine was barely perceptible. This finding would justify the combination of nikethamide with alpha lobeline. However, caution is necessary. Buergi showed that when the respiratory center is already depressed by an opiate administration of lobeline will increase the depression. For the same reason he cautioned the liberal use of atropine in respiratory depressions due to opiates. He assumed that the initial stimulating action of alpha lobeline or atropine results in an increased paralysis. Buergi found alpha lobeline not very effective in depressions due to opiates. Two-thirds caffeine with sodium benzoate and one-third alpha lobeline hydrochloride proved to be the most effective combination. Alpha lobeline increases the frequency of respiration, even causing cramps occasionally, whereas caffeine increases the respiratory volume. The combination lobeline and strychnine proved effective in relieving respiratory paralysis due to opiates. For rabbits 0.05 mg. of strychnine sulfate was the optimum dose. Larger doses caused cramps by reflex action, which became stronger when alpha lobeline was added (Buergi).

Picrotoxin has come to the fore as a restorative for use after operations performed with pentothal sodium anesthesia and in the presence of respiratory depression. Thomas recommends giving 1 cc. of picrotoxin solution (1/20 grain [3 mg.]) every half-hour intravenously until a slight twitching of the facial muscles is noted. He then gives 1 to 3 cc. intramuscularly every hour until the patient reacts.

Buergi has stated that preliminary doses of theophylline and strychnine will increase the permeability of the cell membranes and thereby facilitate the action of analeptics.

SUMMARY

Pentothal sodium (sodium 5-ethyl-5-[1-methylbutyl]-thiobarbiturate) is the intravenous anesthetic of choice for major surgery. If a barbiturate (pentobarbital sodium) is given the night before the operation, the anesthetist will have a clue as to the susceptibility of the patient to the drug, through the degree of sedation obtained. Pentothal sodium is to be given in divided doses. The initial dose, which is to be administered cautiously, results in surgical anesthesia. Additional doses must be carefully gauged to avoid a potentiated effect of the drug with severe respiratory depression.

Preoperative sedation with opiates, atropine and papaverine facilitates the pentothal sodium anesthesia. When such sedation is used, the dosage must be gauged still more carefully to prevent serious respiratory depression.

Postoperative sedation is to be postponed until respiration has become normal and the patient is conscious. If restlessness occurs while the patient is still semiconscious, codeine is the only feasible drug to prevent increase of the respiratory depression. It may be advantageously combined with papaverine.

In the case of severe respiratory depression, use of a resuscitator, administration of oxygen by nasal catheter and transfusions of plasma and of whole blood are recommended. Of the analeptics, pentamethylenetetrazol[*] and nikethamide[**] (pyridine-3 [β]-carboxylic acid diethylamide; N, N-diethyl nicotinamide) are advantageous in combatting light or moderate respiratory depression only. In cases of deep depression they may increase the paralysis. Picrotoxin is preferable in such instances. A combination of lobeline and strychnine has also proved valuable.

SUMARIO

Pentotal sodium (sodium-5-etil-5-metilbutil-1-tiobarbiturate) es la anestesia entravenosa de preferencia en la cirugia mayor. Si se administra un barbiturate (pentobarbital sodium) la noche antes de la operación, el anestetista tendrá una guia á la susceptibilidad del paciente á la droga, según el grado de reposo obtenido.

El pentotal sodium deberá ser administrado en dosis divididas (fraccionadas). La dosis inicial, que debe darse con precaución, resulta en la anestesia quirúrgica. Aumento de dosis deberá ser cuidadosamente para evitar el efecto potencial de la droga con severa depresión respiratoria.

Sedativos antes de la operacion con narcóticos, atropina y papaverina derivativos de opio facilitan la anestesia de pentotal sodium y cuando se emplean estos calmantes la dosis deberá ser medidamente administrados para evitar depresión respiratoria.

Todos los medicamentos calmantes despues de la operación deberán ser demorados hasta que la respiración se normalise y el paciente está consciente. Si el enfermo se muestra intranquilo, mientras está aún parcialmente consciente, codeina es el medicamento más adecuado para evitar la depresión respiratoria. Codeina y papaverina pueden ser combinadas con ventaja.

En caso de depresion severa, el uso del oxigeno por tubo-entranasal y la transfusion de plasma o de sangre total se recomiendan.

De los analépticos o restorativos *pentametilene tetrazol* y *niketamide* (25 per ciento solucion de piridine-3(β) carboxilic acido dietilamide) son ventajosos para combatir ligeras y moderadas despresiones respiratorias. En caso de depresion marcada puede aumentar la paralisis, en cuyo caso picrotoxina da mejor resultados y una combinacion de lobelina y estricnina tambien han sido util.

RÉSUMÉ

L'anesthésique intraveineux de choix pour la grande chirurgie est le pentothal sodium (sodium 5-ethyl-5-methylbutyl-thiobarbiturate). Si un barbiturate est donné la veille de l'opération, on peut par le degré de sédation obtenue juger de la susceptibilité du malade au pentothal sodium, qui doit être toujours administré en doses fractionnelles. La dose initiale sera donnée prudemment et obtitiendra l'anesthésie chirurgicale. On donnera, s'il est nécessaire, des doses additionnelles, n'oubliant pas que la drogue parfois occasionne une sévère dépression de la respiration.

La sédation pré-opératoire par l'opium et ses dérives, par l'atropine, par la papaverine facilite l'anésthesie

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[*] The preparation used in the work reported was metrazol.

[**] The preparation used in the work reported was coramine.

par le pentothal sodium. Si on a recours à cette sédation pré-opératoire, on redoublera de prudence afin d'éviter la dépression respiratoire.

Toute sédation post-opératoire est interdite avant que le malade n'ait recouvré connaissance et que la respiration n'est normale. Si le malade est agite et à moitié conscient, le seul agent utile pour attenuer sa dépression respiratoire est la codeine. On peut avec avantage combiner à la codeine la papaverine.

Si la respiration est beaucoup déprimée, l'emploi d'un resurrecteur, l'administration de l'oxygène par voie nasale, les transfusions de plasma et de sang sont recommandée. Les analgetiques pentamethylenetetrazol et nikethamide (25 pour cent solution de pyridine-3-carboxylic acide diethylamide) sont utiles seulement pour combattre les dépressions respiratoires légères. Quand la dépression est profonde, ces medicaments peuvent augmenter la paralysie. La picrotoxine est préférable dans ces cas. Une combinaison de lobeline et de strychnine a de la valeur.

Выводы

Пентотол натр (Sodium 5-ethyl — [1-methylbutyl] — thio barbiturate) предпочтителен для интравенозной анэстезии при больших операциях Если барбитурат (пентобарбитол соды) дан накануне операции, то, основываясь на степени полученной седации, анэстетист может судить предрасположение больного к этому медикаменту. Пентотол соды дается в дробных дозах Первая доза, дающая хирургическую анэстезию, должна быть дана осторожно. Величину добавочных доз нужно судить также осторожно, чтобы избегнуть серьезную дыхательную депрессию.

До-операционная седация опием, атропином и папаверином облегчает анэстезию пентотолом соды, но дозировка должна быть еще более осторожной, чтобы предотвратить дыхательную депрессию.

После-операционная седация должна быть отложена до того как дыхание делается нормальным и больной пришел в себя. Если безпокойство появляется, когда больной еще находится в полусознательном состоянии, то кодеин является единственным медикаментом не угрожающим увеличением дыхательной депрессии. Его хорошо соединить с папаверином.

В случае сильной дыхательной депрессии советствуется применение респиратора, кислорода при помощи носового катетра, перелив плазмы и крови. Из аналептических средств рекомендуется пентаметилентетразол и некетамид (25% раствор пиридина — 3 [B] карбоксил кислый диэтиламид) для противодействия слабой или умеренной депрессии дыхания, так как при глубокой депрессии эти средства могут увеличить паралич. При таких случаях пикротоксин предпочтителен. Комбинация лобелина и стрихнина также оказалась очень ценной мерой.

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Dystocia Due to Hydroureter of Excessive Size

REPORT OF A CASE

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ONE of the well recognized, though relatively infrequent, causes of dystocia is the presence within the pelvis of a neoplasm or other swelling which has attained sufficient size to interfere with the progress of labor. Such a swelling may originate in the uterus or vagina, in the ovary, in the rectum, in the urinary tract or in the bony pelvis. Occasionally a condition such as an echinococcus cyst, a tumor of the rectogenital septum, an abscess of the parametrium or a coexisting extrauterine pregnancy may give rise to obstruction.

Dystocia due to the presence of a uterine fibroid is perhaps the most commonly encountered. In a total of 30,836 pregnancies, Pierson[1] found 191 fibromyomas of clinical significance (0.6 per cent), but of these only 42 required major operative intervention (0.13 per cent). Carcinoma of the cervix is found to complicate pregnancy in about 1 in 2,000 cases (0.05 per cent).

Ovarian cysts and tumors complicate pregnancy or labor in about 1 in 1,500 cases (0.06 per cent), and obstruction to labor occurs in considerably less than one half of the patients. The work of McKerron[2] and Spencer[3] shows that all varieties of ovarian new growth may be encountered. Recently Abernethy[4] has recorded an interesting example of cesarean section performed on account of insuperable obstruction to labor caused by a dysgerminoma of the right ovary.

Of the rectal conditions causing dystocia, pedunculated fibroma and carcinoma of the rectum are infrequently encountered. Difficulty is perhaps more often seen in cases of lymphogranuloma venereum with rectal stricture and surrounding inflammatory induration.

Dystocia due to an anomaly originating in the urinary tract is seldom seen, if the effects resulting from overdistention of the bladder and cystocele are excluded. Calculus of the bladder has occasionally been recorded, notably in a case observed by Smellie[5] in which a large calculus was forced into the vagina during labor, leaving a permanent fistula. More recently Bride[6] reported a case in which cesarean section was done on account of a stone in the bladder measuring 6.5 by 6 cm. and weighing 4 ounces (120 Gm.). Tumors of the bladder of such a size as to interfere with labor are excessively rare and are practically unmentioned in the literature. Enlargement and prolapse of the kidney, usually on the left side, have been recorded by Bland-Sutton[7] as an obstetric complication. Cragin[8] has even reported 1 such condition for which vaginal nephrectomy was necessary. No reference to hydroureter as a cause of dystocia has been found in the literature, and the following report of a case is therefore submitted.

REPORT OF CASE

History.—A Chinese primipara of 27 years was admitted to the Shanghai Medical College Hospital, Chungking, as an emergency patient at 6 p.m. on June 8, 1944, having been in labor for three and a half days. She had been married for seven years and had an abortion in the second month of pregnancy four years previously and then no further

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pregnancies until the present one The last menstrual period began on September 13, 1943 and the estimated date of confinement was June 20, 1944 The patient was not under antepartum observation and did not notice any unusual symptom except for edema of the legs during the last two weeks of pregnancy Urination had always been normal The patient had had occasional attacks of palpitation during the last six years and had had two attacks of epistaxis, one and six years previously, losing 1 000 cc of blood on each occasion Labor commenced on the morning of June 5, and the membranes ruptured twenty four hours later After labor had lasted three days without any result the patient was taken to a health station, from which after examination, she was referred to the hospital

Examination —The patient was seen to be a well developed young woman pale and exhausted in appearance The lungs were clear, and the heart was of normal size, with a soft systolic murmur in the mitral area The abdomen was considerably distended, and the fundus of the uterus was deviated to the right side reaching to a point 4 fingerbreadths above the umbilicus Frequent painful contractions of the uterus were present, and the fetal heart could be heard just below and to the right of the umbilicus with a rate of 110 per minute A large cystic swelling (which did not disappear on catheterization) could be felt to the left of the uterus, extending from the level of the umbilicus down to the pelvic brim Vaginal examination showed that the cervix was fully dilated, that the membranes were ruptured and that the fetus was presenting by the breech in right sacro anterior position, with extended legs The pelvic measurements were normal for a Chinese patient (interspinous 24 cm, intercostal 27 5 cm and external conjugate 19 cm and transverse diameter of the outlet 9 cm) The blood pressure was 160/110, and there was a trace of albumin in the urine There was no other evidence of renal impairment

A tentative diagnosis was made of breech presentation in labor complicated by ovarian cyst (left side) and preeclamptic toxemia

Delivery was accomplished by breech extraction immediately after the patient's admission to the hospital Some difficulty was experienced in delivering the child on account of the proximity of the cystic swelling to the left side of the uterus and the dilated cervix The child was delivered at 6 45 p m on the day of the mother's admission, it weighed 5 pounds 10 ounces (2,548 Gm) and did not survive The placenta was delivered at 6 50 p m, with the normal amount of bleeding There was a second degree laceration of the perineum, which was repaired in the usual manner

Further examination immediately after the delivery showed that the uterus was deviated markedly to the right side of the abdomen, the fundus of the uterus reaching a point 19 cm above the symphysis pubis On the left side was a well defined cystic swelling extending from the level of the umbilicus down into the pelvic cavity During the puerperium the uterus involuted more slowly than usual, but as it decreased in size the presence of the cystic swelling in the left side became more pronounced Examination on the eighth day after the delivery showed that the uterine fundus was still 10 cm above the symphysis pubis and was greatly displaced to the right by a prominent cystic swelling on the opposite side This swelling extended upward to the left side of the abdomen to a point 20 cm above the symphysis pubis Vaginal examination showed that in a downward direction the cystic swelling extended to a point considerably below the cervix, largely filling the pelvic cavity and displacing the uterus both upward and to the right The cyst was slightly tender to the touch and could not be displaced from the pelvic cavity Other physical findings were normal, except that there was still an occasional trace of albumin and the blood pressure remained somewhat elevated, varying between 132/94 and 180/110 On account of the size and relationship of the cyst, early operation was advised, with a preoperative diagnosis of broad ligament cyst (left side)

Operation —On June 17, ten days after the delivery, the abdomen was opened, with the patient under spinal anesthesia, by means of a median subumbilical incision, which was later extended to a point about 8 cm above the umbilicus When the peritoneal cavity was entered, it was found that the supposed broad ligament cyst was shaped like a massive sausage, completely filling the left broad ligament and extending upward behind the peritoneum of the posterior abdominal wall to the level of the first lumbar vertebra. The uterus was displaced upward out of the pelvic cavity and to the right side. The right tube and ovary were normal. The left ovary was normal, but the round ligament and fallopian tube were greatly stretched over the anterior surface of the swelling. The peritoneum covering the cyst was everywhere freely movable. An incision was made in the peritoneum above and parallel to the left fallopian tube, and an attempt was made to deliver the lower pole of the cyst from the pelvic cavity before enucleating the upper end from behind the posterior parietal peritoneum. This attempt was unsuccessful on account of the presence of a cordlike structure which appeared to anchor the inner side of the lower pole of the cyst to the posteroinferior aspect of the bladder. Attention was then turned to the upper prolongation of the cyst, and after the descending and pelvic portions of the colon were drawn over to the midline, the peritoneal incision was continued external to the colon over the anterolateral aspect of the swelling to a point almost as high as the splenic flexure. It was now found that, whereas the peritoneum stripped fairly easily from the surface of the cyst, there was a firm band of fixation on the inner aspect of the swelling near its upper pole, opposite the body of the first lumbar vertebra. A firm object the shape and size of a large bean was also found to be closely adherent to the upper pole of the cyst in this region. At this juncture the suspicion occurred that the whole structure represented an enormous cystic dilatation of the ureter with an atrophic kidney. Careful palpation in the lumbar region failed to show any trace of an organ corresponding to a normal kidney, while palpation on the right side revealed an obviously enlarged kidney about twice the normal size. Search was then made for the left ureter, but a careful investigation of the posterior abdominal wall and the pelvic cavity failed to reveal any structure resembling a normal ureter.

The cordlike structure which anchored the cyst in the pelvis was then clamped, divided and ligated. It showed no lumen at the point of section, and it was seen that its lower cut end entered the bladder in the fashion of a ureter. The lower portion of the cyst being now delivered, attention was turned to the upper, and more difficult, end. Typical perinephric fat was found in the region of the upper pole, and careful dissection showed that the bean-shaped object previously felt was reddish brown and obviously represented a rudimentary kidney. On its median aspect a small pulsating pedicle could be identified, which contained an artery and a vein of medium size. The pedicle was triply clamped and divided, and the whole of the swelling was removed. Double ligatures were applied to the pedicle, which was then allowed to retract. The large retroperitoneal cavity was found to be completely dry; so it was closed without drainage by a continuous Lembert suture, started from above. The broad ligament cavity was obliterated by buried sutures, and the peritoneal edges were united by a continuation of the Lembert suture started from above. At the end of the operation the uterus dropped back into its normal position in the pelvic cavity, and the appendages, which had been preserved on both sides, resumed their normal relationship to the uterus. The patient stood the operation well and left the operating room in good condition.

Pathologic Examination.—Macroscopic Examination: The specimen measured about 35 cm. in length and was about 12 cm. in width at the widest point. It contained about 2,300 cc. of clear straw-colored fluid. At the upper end there was a bean-shaped structure measuring 2.5 by 2 by 0.5 cm., grayish purple in color, dense in structure and encapsulated by loose adipose tissue. The elongated cystic cavity appeared to be divided by fine constrictions of its surface into four segments. The upper segment measured 1 cm. in diameter and 2 cm. in length, but the other segments were very much dilated, measuring up to 10 or 12 cm. in diameter and 7 cm. or more in length. The lowest of the four segments ended in a rounded blind pouch, and just above its lower end were the remains of a divided cordlike structure, said to have been attached to the bladder, which revealed no lumen continuous with the interior of the sac. The wall of the sac measured about 2 to 4 mm. in thickness, and its inner surface was smooth, with many small patches of hemorrhage at its middle portion.

Microscopic Examination. Section of the bean-shaped structure showed kidney tissue in which only two glomeruli and a few straight tubules were found. The tubules appeared to be very much compressed, but in the lumens of a few of them hyaline material was found. At its side, but in continuity with it, there were many irregularly arranged mesonephric tubules which were dilated and lined with transitional epithelium. The stroma was loose and contained a moderate number of capillaries. All of the aforementioned structures were enveloped by a dense fibrous capsule. A section of the wall of the sac showed fibromuscular tissue lined with a layer of transitional epithelium, beneath which there were areas of hemorrhage.

Diagnosis.—The diagnosis was hydroureter (left side) and atrophy of the left kidney.

Postoperative Progress.—The patient made satisfactory progress after the operation. The urinary output on the day of the operation was only 60 cc, but it rose to 1,400 cc. on the second day and thereafter remained in the region of 1,000 cc. per day. The blood pressure resumed a level of about 140/110, and there was an occasional trace of albumin in the urine. The stitches were removed on the tenth day after the operation, and the wound was found to have healed well by first intention. The fractional phenolsulfonphthalein test of renal function was done on the twelfth day after the operation. It showed some delay in excretion, with a total output of 52.5 per cent of the dye in the two hour period. The test was repeated ten days later and still showed some delay in excretion during the first hour, but the total amount excreted during two hours was 88.5 per cent. Examination of the blood showed nonprotein nitrogen 32 mg per hundred cubic centimeters, creatine 1.6 mg. per hundred cubic centimeters and carbon dioxide–combining power 48.6 volumes per cent. The patient was discharged well on the twenty-second day after the operation, and she was still well when seen in the follow-up clinic a month later.

SUMMARY

A case of dystocia associated with the presence of an exceptionally large hydroureter and almost complete atrophy of the left kidney is reported. The patient was a primipara and had had no previous symptoms of her condition save for palpitation of the heart on exertion and two severe attacks of epistaxis during the previous six years. The latter part of her pregnancy was complicated by raised blood pressure, albuminuria and moderate edema of the legs, which were ascribed to preeclamptic toxemia. Labor was prolonged for three and one-half days before the patient sought relief, and delivery, by breech extraction, was rendered difficult by the presence of a large, elongated cystic swelling situated in the left lower quadrant of the abdomen and extending into the pelvis. Operation ten days after the delivery revealed an enormous left hydroureter, an extremely small vestigial left kidney and considerable hypertrophy of the right kidney. Removal of the entire hydroureter and left kidney was followed by satisfactory recovery. There still remained, however, a slight elevation of the blood pressure, occasional albuminuria and slight delay in excretion of phenolsulfonphthalein by the residual kidney.

SUMARIO

Se cita un caso de distocia asociada con la presencia de un hidroureter extraordinario y casi completa atrofia del riñon izquierdo. La paciente, una primipara que no había manifestado sintomas de su condicion ó estado, con excepción de palpitación cardiaca al ejercicio y dos ataques de epistáxis durante los seis añis pasados.

Los últimos meses de preñez fueron complicados con hipertension, albumi-

nuria y edema moderada de las extremidades que fueron atribuidas á toxemia anticipada á la eclampsia.

El parto fué prolongado por tres dias y medio antes de someter la paciente al alumbramiento por presentación de nalgas, que fué dificil por la presencia de un gran tumor-oblongo, de consistencia quistica, localizado en el quadrante inferior-izquierdo del abdomen y extendiendo dentro de la pelvis.

Operación verificada diez dias despues del parto manifestó un enorme hidroureter izquierdo, un riñon izquierdo extremamente pequeño, un enorme hidroureter izquierdo, un riñon izquierdo extremamente pequeño y marcada hipertrofia del riñon derecho. Extirpacion del hidroureter y del riñon izquierdo resultó en recuperación satisfactoria. Cierto grado de hipertension, albumínuria de vez en cuando y pequeña dilación en la eliminación del fenolsulfontalein por el riñon restante.

RÉSUMÉ

L'auteur nous relate un cas d'accouchement difficile dû à un hydrourétère d'un volume excessif associé à une atrophie presque complete du rein gauche. La malade, une primipare, n'avait eu aucun symptôme de son état excepté des palpitations du coeur et, durant les dernières six années, de fréquentes hémorrhagies nasales. Durant les derniers mois de su grossesse, elle eut une augmentation de sa pression artérielle et un oedème moderé des jambes. Ces symptomes furent attribués à sa grosssesse et à une toxoemie pré-éclamptique. L'accouchement ayant duré trois jours et demi, on intervint. On fit l'extraction par le siège. Elle fut ardue, due à la présence d'une grosseur cystique située dans le côte gauche de l'abdomen et se prolongeant dans le bassin. Dix jours après la naissance de l'enfant, on opéra la mère et on lui enleva un énorme hydrourétère gauche, et un rein gauche vestigial. On coustata que le rein droit présentait une hypertrophie considérable. La malade fit une convalescence satisfaisante. Néanmoins, il persiste une légère élévation de la pression artérielle, une albuminusie occasionnelle et un léger retard de l'excrétion du phénolsulfonaphthaleïne par le rein droit.

Выводы

Доложен случай дистокии при исключительно большом гидромочеточнике и почти полной атрофии левой почки. Больная была первороженица и, за исключением сердцебиения при работе и двух носовых кровотечений в шесть лет, никаких предварительных симптомов не имела. Вторая половина беременности была осложнена повышением кровяного давления, албуминурией и умеренным отеком ног, что предписывалось преэклэмтической токсимии. Когда больная обратилась за помощью, роды уже продолжались три с половиной дня, и прием посредством тазовой экстракции был очень осложнен присутствием в левой нижней части живота и в тазе большой длинной кистовой опухоли. Операция через десять дней после родов обнаружила громадный левый гидромочеточник, чрезвычайно небольшие остатки левой почки и значительную гипертрофию правой почки. Удаление всего гидромочеточника и левой почки было последовано удовлетворительным выздоровлением. Все же осталось небольшое повышение кровяного давления, от времени до времени, мочеввой белок, а также небольшая задержка в выделении фенолсульфафталеина оставшейся почкой.

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Does a Vitellobiliary Duct Exist?

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THE following case is presented in an attempt to raise a question of embryology in the surgical field.

REPORT OF CASE

Mrs. Chang, a housewife aged 25, who had lived since childhood in Kansu Province, was admitted to the hospital because she had had a discharging sinus in the umbilical region for fifteen months.

The condition started with a painful red swelling around the umbilicus, which ruptured after about a week, leaving a sinus. The discharge had been generally colorless and thin, occasionally showing a yellowish tinge. Remissions and exacerbations had been experienced since the onset. There had been no constitutional symptoms.

The past history was irrelevant except for repeated attacks of colic in the right upper quadrant of the abdomen associated with rigors but rarely with fever for two years prior to the onset of the local disturbance just described. *There had been no icterus* of the conjunctivas during this period. The woman had given birth to four children and there had been one miscarriage.

Examination revealed the patient to be well nourished and well developed. The physical findings were not remarkable except for a firm thumb-sized cord leading from the umbilicus to the right upper abdominal region. There was no tenderness. Clear serous fluid could be seen collecting in the umbilical depression. Microscopic examination of the fluid showed but a few blood corpuscles. There was no sign of periumbilical inflammation. Laboratory examinations showed no significant changes. There was no leukocytosis or evidence of anemia. The preoperative impression was umbilical fistula arising from a patent omphalomesenteric duct.

Operation was performed with the patient under general anesthesia. The peritoneal cavity was entered through a midline incision in an attempt to remove the fistulous tract. A well defined tract, starting from the sinus and leading to the gallbladder region, was identified. A thumb-sized stone was found to be impacted in the gallbladder. The cystic duct was shrunken and obliterated to a fine cord. The round ligament was about the size of a chopstick, and the liver was 2 inches (5 cm.) below the costal margin. A large Riedel lobe was found. Five grams of sterile sulfanilamide powder was left in the peritoneal cavity as well as extraperitoneally at the conclusion of the operation.

The postoperative diagnosis was in favor of a congenital omphalobiliary duct with an umbilical fistula.

COMMENT

Let us review briefly the embryology of the region concerned. The portion of the entodermal sac which is enclosed within the hollow embryo formed by the folding of the embryonic area is the primitive gut. The part which remains outside of the embryo is the yolk sac. The passage of communication between the two is the vitellointestinal duct, or omphalomesenteric duct.

When the embryo is about 3 weeks old and has attained a length of 2.5 mm., the hepatic diverticulum appears in the ventral wall of the duodenal portion of the foregut. The common bile duct is the stem of the hepatic diverticulum, the gallbladder and its cystic duct represent a special offshoot of the diverticulum.

From the diagrams in any textbook of embryology one can see that the hepatic diverticulum, or, more specifically, the gallbladder offshoot, is near to the upper end of the passage between

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the umbilicus and the primitive gut, especially in the early stages. We should imagine that it would not be impossible for the gallbladder offshoot to go along the upper margin of the passage between the umbilicus and the gut, forming a vitellobiliary duct. As development progressed, the distal portion of the duct would be temporarily obliterated; the proximal portion would become the gallbladder and the cystic duct. After a time, cholecystitis would develop and a gallstone be formed, and a mucocele of the gallbladder would result from the impaction of the stone in the cystic duct. The mucus would work its way through the incompletely obliterated vitellobiliary duct and eventually make its way into the umbilicus.

The communication between the umbilicus and the gallbladder in the case reported was a duct 3.5 cm. long. It did not appear to be the result of a biliary fistula developing from an abscess in connection with the gallbladder, as the lining of the fistula was definitely of embryonic origin, with cells homologous to the cells lining the intestine. If this had not been so, one would have expected the gallbladder to be closely adherent to the umbilicus, without a definite fistulous tract of such length. The results of pathologic study of the specimen supported this hypothesis. The lining membrane of the fistulous tract was formed by cells identical with those normally found in the intestinal wall.

Again let us raise the question: Does a vitellobiliary duct sometimes exist?

SUMMARY

Observations made clinically and at operation in a case of discharging sinus in the biliary region and a consideration of the embryology of the region suggest the possibility of the occasional presence of a vitellobiliary duct.

RÉSUMÉ

Les observations cliniques et l'opération faite dans un cas de sinus de la région biliaire ainsi que la considération de l'embryologie de la région suggèrent la possibilité de l'existence, peu fréquente il est vrai, d'un conduit vitellobiliaire.

SUMARIO

Observaciones clinicas y durante la operacion en un caso de seno con descargo en la region biliar y considerando la embriologia de esta region, se sugestiona la posibilidad de la presencia, de vez en cuando, de un conducto vitelobiliar.

Выводы

Клинические и операционные наблюдения над случаем выделяющей фистулы в области желчного пузыря, а также принимая во внимание эмбриологию этой области, указывают на возможность редкого существования желточно-желчного протока.

MIXED TUMORS OF SALIVARY GLANDS

(Continued from page 120)

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Endometriosis and Adenomyosis

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ENDOMETRIOSIS and adenomyosis are terms which have often been used synonymously. Internal or direct endometriosis and also adenomyosis are used to denote ectopic endometrium continuous with the mullerian mucosa, while by external or indirect endometriosis and also sometimes by adenomyosis is meant ectopic endometrium found away from the mullerian mucosa. Of late there has been a tendency to separate the two terms, and to apply adenomyosis to intrauterine aberrant endometrium and reserve endometriosis for the extrauterine anomaly, irrespective of its location. This distinction seems to be desirable, and it is the purpose of this paper to prove that the two conditions are actually two separate entities, and that therefore the separation is in the right direction.

Endometriosis and adenomyosis are commonly found in Chinese women. More than half of the patients tentatively given such a diagnosis in the clinic with which I am associated failed to come to operation. This presentation is based on 40 patients who were operated on and had the diagnosis confirmed by pathologic sections. With the exception of 1 or 2, all the patients came from well to do families. Those with endometriosis ranged from 19 to 32 years of age, and those with adenomyosis, from 35 to 45. Except for 1 German, all the patients were Chinese. Patients with endometriosis outnumbered those with adenomyosis by 3 to 1.

The pathologic changes of endometriosis and adenomyosis have been difficult to interpret, and endometriosis may be justifiably called the "disease of theories" in gynecology. To explain the origin of the aberrant endometrial proliferations, many theories have been advanced. To enumerate a few, there are the mucosal, the serosal or celomic and the implantation theory, and also the theories of heterotopy and metaplasia, etc. However, whatever theory one may choose to support, two facts remain unchallenged: (1) that none of these theories serves to explain all the clinical and pathologic manifestations of endometriosis, and (2) that the origin of the ectopic endometrium is of secondary importance to the exciting cause precipitating this invasive process—namely, an excess of the ovarian follicular hormone.

If none of these theories explains all the pathologic changes, in spite of the fact that most of them are supported by formidable clinical or experimental evidence, would it not be reasonable to assume that a certain group of these endometrial proliferations originate from, say, heterotopy and metaplasia and another group from, say, implantation?

I have come across several cases which serve to prove the implantation theory. One case will suffice for illustration.

A 19 year old married woman with complete atresia of the lower third of the vagina said that for two years she had had multiple abdominal masses and severe attacks of pain in the lower part of the abdomen. Operation showed multiple endometrial implantations over the wall of the bladder, the intestines, the omentum, the tubes and the right ovary. The left ovary contained a typical chocolate cyst and was inseparable from the left tube. A fist sized endometrial cyst containing about 200 cc. of old tarry chocolate colored blood was firmly adherent to the sigmoid flexure of the colon. The uterus was enlarged to about the size it is in the third month of pregnancy. The uterine cavity together with the upper two thirds of the vagina contained approximately a liter of the same tarry fluid. The interesting fact was that the right tube was patent and patches of fibrin, apparently formed from regurgitated blood, could be peeled off from the surfaces of the right ovary and the tube.

Doubt that the implantation theory explains umbilical and inguinal endometriosis has often been expressed. But one must consider the fact that apart from endometriosis in incisional wounds, all the aberrant endometrial tissues, no matter how remote they may be from the tubal openings, develop over areas covered by the epithelium of the original celomic cavity, and that the latter is subject to multiple herniations, especially in the umbilical and inguinal regions. It will not be far fetched, then, to conceive that the endometrium may implant itself in areas which may even turn into potential spaces in later life. We have come across a case of endometrioma of the left labium diagnosed as a Bartholin cyst, and also a case of endometriosis inside an umbilical hernia.

In cases of adenomyosis, it would be difficult to picture how the endometrium could be detached from the uterus and be carried through the muscle fibers. Sampson, in his paper on "Implantation Theory of Peritoneal Endometriosis," did not even include adenomyosis in his discussion. The implantation theory, therefore, at best, may serve to explain only part of the picture. To explain the origin of adenomyosis one would have to resort to one or more of the other popular theories. Meyer's theory of epithelial heterotopy and metaplasia has been championed by many, and so has Cullen's mucosal theory.

It is beyond the scope of this paper to review the various theories. One interesting question, however, is the period of life during which these metaplastic or invasive processes take place. In other words, are these ectopic endometrial tissues prenatal or postnatal? One may say that they may be either or both. This answer, however, seems to evade the issue, besides adding more confusion.

It seems that these aberrant tissues are prenatal in origin and are one form of maldevelopment of the müllerian system. I have encountered 2 unusual cases of adenomyoma of the uterus which have led me to suggest this possibility.

The first case was interesting in that it was an instance of uterus didelphys with a definitely encapsulated fibroid slightly smaller than a hen's egg in the lateral wall of one uterus. In view of the fact that adenomyosis is never encapsulated, the case was considered as one of fibroid and the specimen was sent to the pathologists. They at once called attention to the gross appearance of a Swiss cheese pattern in the cut fibroid, although the presence of the capsule was puzzling. Several sections of the fibroid were made and were diagnosed as adenomyoma by different competent pathologists. The case was then presented before a clinical-pathologic conference. There was also a pea-sized fibroid over the contralateral wall of the same uterus. This case presented several other interesting points which will be discussed later.

In the second case, a single fairly good-sized round cavity, measuring about 1.5 cm. in diameter, was situated over the posterior wall of the uterus. It contained no blood, but microscopically it was lined with endometrium. Serial sections failed to reveal any other signs of adenomyoma.

Granted that the anomaly in the second case may be explained by any one of the popular theories, still a single cavity as large as that is in all probability of prenatal origin The first case is difficult to explain in the light of the present theories unless we assume an embryonal origin of the so called ectopic or aberrant endometrium Otherwise, it would be difficult to conceive why these aberrant tissues could pierce through a dense fibrous capsule The assumption that ectopic endometrium is of prenatal origin will not contradict any of the popular theories, for metaplasia and diverticulum formation can take place prenatally too, and fetal adenomyosis is not unknown It has been assumed, of course, that these embryonal rests will not cause symptoms in the presence of normal ovarian function

Next, let us consider the question from the histopathologic viewpoint, and let us choose the chocolate cyst of the ovary as a type representative of endometriosis As Shaw has well pointed out, histologic classification of chocolate cyst of the ovary is extremely difficult, as it is not exactly a cyst lined by epithelium and only in rather long standing cysts is a cellular stroma present These features seem to speak for the implantation theory The early stages probably represent a local reaction to the invading endometrium The histologic picture of adenomyoma, with its stroma cells, is identical with that of the lining of the endometrial cavity In pelvic endometriosis the histologic picture in the middle of the affected areas is identical with that of adenomyosis as far as gland spaces and cells are concerned But here it might be asked how much muscular tissue is present in these pelvic endometrial implantations Since many such endometrial implants are surrounded by a fibrillated connective tissue, why call them adenomyomas? In adenomyosis of the uterus most of the aberrant endometrial tissues are found in the mid part of the thickened myometrium Some, however, may be fairly close to the serosa and appear as purplish dots just underneath the serosa of the uterus Adhesions to the omentum and intestines may form either from rupture of these spots or from local irritations We had 2 cases of this kind, and careful sectioning of the ovaries and searching in the pelvis failed to reveal other implantations The predominant picture was adenomyosis Here one may say endometriosis and adenomyosis actually meet The former develops from the ruptured components of the latter To determine just how often these two coexist requires further statistical studies

Another aspect of endometriosis which should arouse one's interest is the question of the development of the stroma cells Are these cells also implanted, or are they less differentiated nests of cells forming the nidus for implantation? The answer is not difficult to find if one takes into account the fact that the distribution of the aberrant endometrium is the same as that of the ectopic decidual cells and that the decidual reaction involves only the stroma cells If the stroma cells are known to be there, why should one assume that they would have to be implanted? In case of adenomyosis of the uterus the stroma cells probably develop from the intramuscular connective tissue

Just how great a part the hormonal factors play in endometriosis and adenomyosis remains to be seen, but suffice it to say that they probably have a good deal to do with the activity of such aberrant tissues The majority of patients suffering from either condition are either sterile or unmarried, and it cannot be a coincidence that symptoms of endometriosis and adenomyosis develop between the ages when the ovarian function is at its height In the light of present knowledge, it would appear not far from the truth to assume that in endometriosis these implants probably will not "take" without excessive ovarian hormonal influences and pseudodecidual reactions from the so-called ectopic decidual cells. This was proved by a case in which menstruation came two days after an Estes operation. The regurgitated endometrium found its way into the abdominal incision, and a fistula leading from the uterine cavity to the incision was present for more than a year, with some menstrual blood escaping through the fistulous opening every month. The patient finally agreed to be operated on. The tract was resected, and careful search in the pelvis failed to reveal any other implantations. Now, three years after the second operation, the patient has oligomenorrhea. In adenomyosis the embryonal rests probably will remain dormant throughout life, in the absence of the stimulating factor (ovarian hormone) in excess. On the other hand, mere excessive hormonal secretion without the embryonal rests will not cause adenomyosis either. In the case of uterus didelphys previously mentioned, the other uterus was removed three years after the removal of the first, and serial sections of the second uterus showed no signs of adenomyoma. It probably contained no embryonal rests.

From the symptomatic viewpoint, it may be said that the most characteristic symptom of endometriosis is pain, either in the lower part of the abdomen or in the lumbosacral region, while with adenomyosis by far the most common complaint is menorrhagia associated with dysmenorrhea. The pain accompanying endometriosis is distinguishable from that of primary dysmenorrhea in that the former is of greater severity and starts with the onset of menstruation, increasing as the flow goes on but not disappearing with the cessation of the flow.

CONCLUSION

In all probability endometriosis and adenomyosis are of different origins. They also differ slightly in histopathologic characteristics and in symptoms. The two terms, therefore, should not be used interchangeably. They are more descriptive than the terms direct (or internal) and indirect (or external) endometriosis.

Though they may not be of the same origin, both conditions may be activated as a result of excessive hormonal secretion of the ovaries.

SUMARIO

Basando las observaciones hechas en un número de casos y tomando en cuenta la literatura sobre este téma, el autor llég a á la conclusión que con toda probabilidad endometriosis y adenomiosis son de origen diferente. Tambien se diferencian ligeramente en su histopatologia y sus sintomas.

Los dos términos no deberán ser empleados alternativamente. Son más descriptivos que los términos directo (ó interno) y indirecto (ó externo) en la endometriosis. Aún cuando no aparecen del mismo origen, ambos cambios patalógicos podrán ser activados por exceso de secrecion hormonal de los ovarios.

RÉSUMÉ

Se basant sur ses observations personelles dans un nombre de cas et sur l'étude de la littérature, l'auteur est arrivé à la conclusion que l'endométriose et l'adénomyose sont d'origines différentes. Ces deux affections diffèrent légèrement en caracteristiques histopathologiques et en symptômes. Les deux termes ne doivent pas être employés l'un pour l'autre. Ils sont plus précis que les termes directes

(ou interne) et indirectes (ou externe) endométriose.

Quoique ces deux états n'ont pas probablement la même origine, ils peuvent être activés l'un et l'autre par une sécrétion excessive des hormones de l'ovaire.

Выводы

На основании наблюдения многих случаев и на обзоре научной литературы автор заключает, что, по всей возможности, эндометрит и аденомиозит имеют разное происхождение. Они также слегка отличаются гистопатологически и симптомологически. Поэтому эти два имени не должны быть употребляемы одно взамен другого. Они более описательны чем «непосредственный (внутренний)» или «посредственный (наружный)» эндометрит.

Хотя они имеют разное происхождение обе болезни могут сделаться более активными под влиянием чрезмерной гормонной секреции яичников.

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Blue Sclerotics Associated With Bony Defects

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A HOMOGENEOUSLY blue discoloration of the sclera may be observed in buphthalmos, anterior staphyloma, cardiac disease, certain forms of drug intoxication and other conditions. But, the term blue sclerotics refers specifically to a clinical condition which is congenital, usually hereditary, and is frequently associated with fragility of the bones or defective hearing, or both. Henzschel[1] in 1831 and Gescheidt[2] in 1832 were among the earliest writers to comment on this condition. Lobstein[3] in 1833 was one of the first persons to point out the association of this anomaly with fragile bones. Spurway[4] in 1896 published a pedigree of hereditary fragility of the bones running through four generations. He noticed that many members of the family had a curious bluish tinge of the eyeballs. Special credit should be given to Eddowes (1900),[5] who definitely emphasized the fact that the blue color of the scleras and the tendency to fracture of the bones were due to an inherited defective structure of the fibrous tissue of the body.

Since then many reports of blue sclerotics have appeared in the medical literature of the world. Genealogically, Bell[6] has collected and studied by far the largest series of cases. I have been fortunate enough to have the opportunity of studying in detail the first case of this anomaly in a Chinese girl. Of particular interest are the biomicroscopic, anatomicopathologic and biochemical observations.

REPORT OF A CASE

History.—C. A. F., a Chinese girl aged 18, was admitted to the Eye, Ear, Nose and Throat Hospital of the Associated Universities in Chengtu on Dec. 11, 1939, because of obstruction in her nose and protrusion of her left eyeball. Five years previously she had begun to experience occasional obstruction of her left nostril. Two years later a mass was seen in the left nostril and was operated on in Chungking. Gradually she found that the mass was recurring and that the left eye was protruding. She also suffered from aching of her left ear at times.

The familial history was insignificant. There was no history of blue scleras or of fragile bones in the family. There was no consanguinity. The patient was the seventh and youngest child. With the exception of the oldest sister and herself, who were slenderly built, all the members of the family had an average physique.

The past history revealed that her scleras had been blue since birth. Eight years previously her right elbow region had sustained a fracture. Three years before one of her knees also had undergone a fracture.

Physical Examination.—The general physical examination showed a girl of small stature. Her height was 58 inches (147 cm.) and her weight 88 pounds (39.5 kg.). There was no lesion on her skin. Her chest wall, heart, lungs, abdomen and internal organs were normal. The muscle tone and tendon reflexes did not show any pathologic changes. The Trousseau and Chvostek signs were not elicited. Her head appeared normal except for the nose and the left eye. The otologic and laryngologic findings were within physiologic limits. The nasal septum was markedly deviated to the right side. A large, smooth pink tumor mass filled the entire left nostril.

Ophthalmologic Examination.—Both scleras were light blue. The following exophthalmometric readings were obtained: right eye, 12 mm.; left eye, 23 mm. The visual

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From the Eye, Ear, Nose and Throat Hospital of the Associated Universities in Chengtu.

acuity was 6/60 in the right eye and 4/60 in the left. With a pinhole, vision in the right eye was 6/20 and in the left 6/60. With a −10.00 D sph. +0.75 D cyl. axis 180 vision in the right eye was 6/15. With a −6.00 D sph., vision in the left eye was 6/60. Except for the pallor of the conjunctivas the external findings were not remarkable. The pupillary reactions were active and equal on the two sides. The tension was normal. There was slight concentric contraction of the right visual field and extreme contraction of the left field. No scotomas were detected. Ophthalmoscopic examination revealed nothing significant in the right eye. The right fundus was best seen with −10 D and the left fundus with −6 D. In the left eye the media were clear; the disk was white with a clearcut outline, a narrow myopic crescent was seen on the temporal side, the lamina cribosa was readily visible, the veins were somewhat congested but the arteries were normal, other findings were not significant.

Biomicroscopic Studies.—The flow of blood was sluggish in the conjunctival and scleral vessels of both eyes, particularly in the former. The movements of the blood cells could be seen in most of the vessels. There was no reduction in the number of vessels. There were no clumps of pigment cells. The corneas were normal except that they measured one fourth thinner than those of an average Chinese woman. There was no evidence of embryotoxon. The irides contained the regular amount of pigment found in Chinese eyes. Both lenses were perfectly transparent.

Laboratory Tests.—The result of the Kahn test of the blood was negative. A ring test failed to reveal albumin in the urine. The red blood cell count was 4 500 000 and the hemoglobin content 78 per cent (Sahli). The white blood cell count was 8 050 and the differential count showed polymorphonuclear cells 72 per cent, lymphocytes 24 per cent, monocytes 3 per cent and eosonophils 1 per cent. The bleeding time was two minutes and the coagulation time two and one half minutes. The sedimentation rate was 46 per cent. Urinalysis gave normal results. Examination of the stools revealed nothing abnormal except a few ascaris ova.

The results of chemical analyses for calcium and phosphorus when our patient was consuming an ordinary Chinese diet were as follows:

	Calcium Mg. 100 cc.	*Phosphorus* Mg. 100 cc.
Blood *	9.6	4.4
"	10.7	3.0
Urine	13.0	97.0
Feces	9.0	1.1

* *Two determinations.*

The roentgenologic report (by Dr. F. Y. Khoo) was as follows:

"A large soft tissue tumor occupied the entire nasal fossa with practically total destruction of all the structures and marked displacement of the nasal septum to the right. The lower border of the mass is well defined and is seen projecting into the prophary nx. The upper border of the mass is not well defined. The mass has apparently invaded the ethmoid sinuses with destruction of the bony trabeculae, and also infiltrated into the sphenoid sinus. The pressure caused by the tumor in the latter location has apparently resulted in moderate flattening of the sella turcica, as evidenced by the moderate decrease in its anteroposterior diameter. The round bulging situated about the posterior aspect of the floor of the anterior cranial fossa is of indefinite nature. Both maxillary antrums are extremely cloudy. The right optic foramen is fairly well defined and of normal size. Its interior wall and to a slighter extent, its anterior wall are somewhat rarefied, probably as a result of pressure from the tumor within the sphenoid sinus. The left optic foramen is never definitely visualized. This may mean either marked pressure rarefaction or total destruction.

"The bones of the upper extremities are somewhat slender, but this is within normal limits. The texture is good. There is no deformity or evidence of fracture. The bones of the lower extremities are of normal texture and form. The thoracic cage and the viscera show no abnormal change."

Bacteriologic smears and culture of mate rial from the left nostril showed Staphylococcus albus.

Fluid was aspirated from the cystic tumor in the left nostril on two occasions:

1. On Dec. 18, 1939, 15 cc. of pink, clear liquid was obtained. The white cell count was 625. The differential count showed 14 per cent polymorphonuclear cells, 74 per cent lymphocytes, 2 per cent monocytes and 1 per cent eosinophils.

2. On December 22, 10 cc. of yellowish, clear but somewhat viscid liquid was aspirated. The differential cell count showed 11 per cent polymorphonuclear cells, 75 per cent lymphocytes, 14 per cent monocytes and a few normoblasts.

Biopsy of the cyst on December 22 showed that the inner lining of the wall was smooth and shiny.

Operation and Further Observations.—Excision of the tumor was attempted on December 29. The growth was perceived to be broadly attached in its posterior part to the wall of the sphenoid sinus and in its lateral and superior portions to that of the ethmoid sinus. The cystic walls were thick and friable. A piece of what was considered to be bony formation was removed.

In the confusion of air raids, the microscopic slides and the pathologic description have been lost. The only record left of the histology examination is the diagnosis of giant cell tumor of the nose.

After the rhinologic operations, secondary anemia gradually developed. The hemoglobin dropped to 45 per cent (Sahli) and the red blood count to 2,125,000 on Jan. 14, 1940. The left eye remained proptosed as before, but the vision was finally reduced to seeing hand movements in May 1940. When the anemic condition improved, enucleation of the left eye was done, with local anesthesia, on June 1, 1940.

As soon as the eyeball was removed, it was cut open around the limbus. Measurements of the outer tunic were taken. The thickness of the cornea was 0.6 to 0.7 mm. The figures for the normal cornea as stated by Salzmann[7] are 0.8 mm. in the center and 1 mm. or slightly more at the periphery. The following tabulation gives the comparative values of the thickness of the sclera of our patient and the norm found by Salzmann.

	Thickness, Mm.	
	My Patient	*Salzmann's*
At posterior pole	0.5	1 or over
At equator	0.15	0.4–0.6
Beneath rectus tendons	0.2	0.3
Anteriorly	0.4	0.6

From the foregoing figures it is evident that the sclera of my patient was one third to two thirds as thick as that of a normal eye, the ratio varying in different regions. The stained section of the sclera seemed to show a slight decrease in the number but no change in the size of the fibers.

Prof. Libin C. Ch'eng and Miss T. P. Chou, of the Department of Biochemistry, National Central University College of Medicine, made the determinations of calcium and phosphorus contents of the blue sclerotic for me. The values were as follows: calcium, 1,103.5 mg. per hundred grams of dry sclera; phosphorus, 278.0 mg.

COMMENT

As the designation of this anomaly signifies, the blueness of the sclera is the most conspicuous feature. In almost all of the cases reported, the color of the sclera was uniformly blue. The shade of blue ranges from pale blue to dark blue. Hay,[8] however, called attention to a case in which the blue color appeared in spots. Knapp[9] also mentioned a family with blue sclerotics, the discoloration of which was in patches. There has been much dissension as to the actual cause of this abnormality. Most writers feel that the blue color was caused not by increased pigmentation of the sclera but by increased translucency of that structure, which allowed the underlying choroid to show through. Such an appearance is somewhat analogous to that of a vein showing through the skin. Terrien, Sainton and Veil,[10] however, cited Borel's erroneous attempt to explain the blueness as due to cyanosis of the sclera and conjunctiva resulting from a decrease of capillaries in those structures As early as 1900, Eddowes,[7] writing on "Dark Sclerotics and Fragilitas Ossium," surmised that "the transparency of the sclerotics indicated a want of quality or quantity of the fibrous tissues forming the framework of the various organs of the body, and probably explained the want of spring or toughness in the bones of these individuals" Conlon and Fridenberg, who examined Herman's[11] patient, thought that the assumption of thinning of the sclerotic as a cause of increased transmission of color was disproved by the absence of any record of the presence of distention of the globe as in infantile glaucoma or hydrophthalmos, furthermore, there was no mention of the presence of coloboma or posterior staphyloma They suggested that the blue sclerotics and the lead gray iris as well were due to transparency dependent on the absence of lime salts in the connective tissue elements of the sclera and the iris Paterson, who made histologic studies in Bronson's[12] case, stated that the sclera was of normal thickness and the size and number of fibers normal for an infant of that age Bronson's patient died of pneumonia when 11 months old The scleras were said not to be as blue as those in the cases cited from the literature by the Edinburgh essayist On the other hand, Buchanan,[13] who made a histologic study of 2 cases of blue sclerotics, found that the cornea was three fifths and the sclera one third the normal thickness There was a decrease in the number but no change in the size of the scleral fibers In Hay's[8] case, which has already been alluded to, pathological examination showed that the blue spots of the sclera were much thinner than the surrounding areas More lately Casanovas[14] reported on sections of the eyes of a 9 month old baby with blue sclerotics and a history of multiple fractures Both scleras measured only one half the usual thickness

The cornea of my patient was three quarters as thick as that of a normal eye and the sclera one third to two thirds as thick as that of the normal eye There seemed to be a slight decrease in the number but no change in the size of the scleral fibers Indeed, the observations made by my associates and me confirms those of Buchanan, Hay and Casanovas

According to Duke Elder,[15] contradictory conclusions have been arrived at by observers with the biomicroscope Vogt did not discover any variation in thickness of the cornea in blue sclerotics, whereas Wirth noticed a thinning Our investigation by means of slit lamp studies as well as anatomic sections, confirms Vogt's observations

The discovery of an abnormally high calcium content in the sclera of my patient lay totally beyond my expectation The percentage of calcium was almost ten times as high as that in a normal sclera as determined by Sorsby, Wilcox and Ham[16] Most writers believe that there is a deficiency of calcium in the blue sclera Moreover, the eye studied was myopic Authorities usually hold the opinion that the calcium content in the sclera of a myopic eye is low In view of such an unexpected finding, I hope that this work will be checked at an early date

I agree with Dessoff[1] in suspecting the possibility of hyperparathyroidism as a factor in causing blue sclerotics Like most of the data obtained in the study of the calcium and phosphorus content of the blood in this condition, the figures for my patient ranged within normal limits But, the preponderantly high values in the sclera of this patient coupled with the osseous lesions in the head certainly strongly suggest an overactivity of the parathyroid glands

SUMMARY

A brief survey of the earliest writings on blue sclerotics is reported.

A typical example of blue sclerotics associated with a giant cell tumor in one eye was seen in a Chinese schoolgirl, and the case was carefully studied. Biomicroscopic studies as well as anatomicopathologic examinations of the enucleated eye showed thinning of the cornea, which was about three fourths as thick as that of a normal eye. Ana*tomic section demonstrated that the sclera was from one third to two thirds* as thick as that of a normal eye, the ratio varying in different regions. Biochemical analyses of the sclera disclosed the presence of an abnormally large quantity of calcium.

It is believed that hyperfunction of the parathyroid glands may be a factor in the causation of this anomaly.

SUMARIO

El autor hace breve relación de los escritos más tempranos con respecto á la esclerótica-azul.

Un ejemplo típico de esclerótica-azul asociada con tumor de celulas-gigantescas de un ojo fué observado en una joven China, de escuela, y el caso fué *cuidadosamente estudiado.* Los estudios biomicroscopicos, así como tambien los examenes anatomopatológicos de los ojos enucleados, demostraron rarefaccion de la cornea, cosa de $^{3}/_{4}$ menos del espesor normal del ojo.

Secciones anatómicas demostraron que la esclerótica solo era de $^{1}/_{3}$ á $^{2}/_{3}$ del espesor normal del ojo, con variaciones según la region de origen.

En los analises bioquimicos de la esclerótica se descubre la presencia de cantidad abnormal de calcium.

Se sospecha que hiperfuncion de las glandulas parateroideas sea un factor en la etiologia de esta anomalia.

RÉSUMÉ

L'auteur nous donne en abrégé la littérature des sclérotiques bleues. Il rapporte un cas typique de sclérotiques bleues associées avec une tumeur de cellules géantes d'un oeil. La malade, une jeune Chinoise, fut étudiée minutieusement. L'oeil fut énuclée et étudié anatomiquement et microscopiquement. La cornée n'avait que trois-quarts de l'épaisseur de la cornée normale. La section anatomique de la sclérotique *révéla qu'elle était un ou deux tiers plus* épaisse qu'une sclérotique normale. Une analyse biochimique de la sclérotique montra qu'elle renfermait une quantité anormale de calcium.

L'auteur croit que cette anomalie est due en partie à l'hyperfonction des glandes parathyroïdes.

Выводы

Дан краткий обзор самых ранних докладов о синей склерозной оболочке.

Был подробно изучен типичный случай такой оболочки, найденный вместе с гигантно-клеточной опухолью в китайской девочке. Биомикроскопические и анатомопатологические исследования вылущенного глаза показали, что роговица была три четверти нормальной толщины, а склера от одной до двух третей толщины нормального глаза. Биохимический анализ показал присутствие ненормально большого количества кальция.

Считается, что гиперфункция околощитовидных желез может быть одним из факторов в причинении этой аномалии.

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Congenital Absence of Segments of the Small Intestine

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INTESTINAL obstruction in the newborn is rare. If present, it is usually due to a cause such as volvulus neonatorum, congenital atresia of the ileum, imperfection of development of the postallantoic gut, or persistence of the cloaca associated with complete absence of the postallantoic gut. Even rarer is congenital absence of segments of the small intestine. Hence the following case is presented.

REPORT OF CASE

Baby Tang, a boy 24 hours old, was brought to the hospital because of persistent vomiting since the time of delivery. He was born at full term. There was no difficulty during delivery. The mother had previously had one normal child. The family history was irrelevant.

Physical examination revealed a thin baby with evidence of dehydration. There was no gross external deformity. The mouth cavity was filled with bile stained fluid. The abdomen was greatly distended. Gurgling sounds were audible but not exaggerated on auscultation. Peristaltic waves of contraction were visualized. A catheter could be passed up into the rectum easily. The preoperative diagnosis was congenital atresia of the ileum.

Operation was performed with local anesthesia. A right paramedian incision was made. As the peritoneal cavity was opened, huge, dilated loops of small intestine were exposed from a point about 3 feet (0.9 meter) above the ileocecal valve. The distended portion of the intestine was estimated to be about 10 cm. in diameter. The abrupt ballooning of the distended loops contrasted with the collapsed portion, which was only about 0.5 cm. in diameter. There was no patency of the lumen at the point of junction. Complete loss of continuity of the small intestine was noted at two other places about 1½ feet (0.45 meter) proximal to the valve. The length of the break was estimated to be 1 cm. in each case. The isolated segment of the ileum between the two points of obstruction was about 4 cm. in length. The mesentery was well developed all along. There was no evidence of pyloric stenosis. The distal portion of the ileum and the cecum, appendix, colon and rectum were markedly collapsed. Ileostomy was performed at the distally distended loop, with resection of the two isolated segments of ileum.

The postoperative course went from bad to worse, although vomiting was more or less controlled. The baby eventually succumbed, on the sixth postoperative day.

The postoperative diagnosis was congenital atresia and absence of segments of the ileum.

COMMENT

Congenital malformations are of more interest to embryologists than to clinicians, but surgical repair offers the only hope with these and allied conditions.

Without going deeply into the embryology of the anomaly reported here, it could be explained as resulting from an unusual contact between the ventral and the dorsal wall of the primitive gut in certain places during the invagination of the entodermal vesicle.

As to the factors precipitating congenital anomalies, much recent work has been done on the borderline between biochemistry and morphogenesis, backed up by experiments on amphibians. The ultimate fate of intestine in process of development may be influenced either by its receiving an abnormal stimulus or by its failing to receive a normal stimulus deriving from the action of secondary morphogenic hormones or secondary organizers. Work along this line was initiated by Spemann and Mangold in 1924, and was carried on further by Holtfreter and Waddington (1931) and

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others. Further light was thrown on this subject by the recent work of Prof. Joseph Needham, of Cambridge University.

A new field of preventive surgery may be developed by workers in morphology, biochemistry and experimental surgery rather than by surgeons.

SUMMARY

Operation on a newborn boy with symptoms indicating intestinal obstruction revealed atresia and absence of several segments of the small intestine. An attempt at correction was not successful, and the child died. The anomaly may have been caused by an unusual contact between the ventral and the dorsal wall of the primitive gut in certain places during the invagination of the entodermal vesicle. Information on the factors precipitating congenital intestinal anomalies has been contributed by recent work of investigators in the fields of morphology, biochemistry and experimental surgery.

SUMARIO

Operación practicada en un varon recien nacido, con síntomas indicativos de obstruccion intestinal, reveló contracción (atresia) y ausencia de varios segmentas del intestino delgado. Esfuerzos hechos para corregir esta lesion no tubieron exita, y el niño murió. La anomalia puede haber resultado del contacto, raro, de la pared ventral y dorsal del intestino primitivo durante la invaginación de la vesicula entodermal. Conocimiento de los factóres que precipitan anomalies congenitales del intestino han sido ilustrados por los trabajos de investigadores en las materias de morfología, bioquímica y cirujia experimental.

RÉSUMÉ

L'opération sur un enfant (masculin) nouveau-né présentant des symptômes d'obstruction intestinale révéla l'atrésie et l'absence de plusieurs segments de l'intestin grêle. Cette anomalie peut être due au contact rare de la paroi dorsale et de la paroi ventrale de l'intestin primitif en certains endroits dans le cours de l'invagination de la vésicule entodermale. Les ouvrages récents des expérimentateurs dans les champs de la morphologie, de la biochimie et de la chirúrgie expérimentale nous ont révélé des renseignements sur les facteurs qui précipitent les anomalies intestinales congénitales.

Выводы

Атрезия и отсутствие нескольких сегментов малой кишки были найдены при операции над новорожденным мальчиком с симптомами кишечной обструкции .Попытка исправить недостаток была неуспешна, и ребенок умер. Аномалия эта была создана необыкновенным соприкосновением вентральной и дорсальной стенок примитивного кишечника, которое случилось в нескольких местах во время инвагинации энтодермального пузырька. Исследователи в морфологии, биохимии и экспериментальной хирургии увеличили наше знание факторов, создающих прирожденные кишечные аномалии.

The writers wish to express their thanks to Prof. Joseph Needham, F.R.S., without whose encouragement and help this paper would not have been written.

BLUE SCLEROTICS ASSOCIATED WITH BONY DEFECTS

(Continued from page 144)

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Eclampsia During Pregnancy or Labor—A Ten Year Survey

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ECLAMPSIA occurring during pregnancy or labor is a complication to be compared in severity only to uterine rupture. While with most obstetric complications there are difficulties in diagnosis but treatment is more or less uniform, with eclampsia there is no difficulty in diagnosis and no disagreement as to the prophylactic measures but great differences of opinion exist as to its treatment.

Many papers on the treatment of eclampsia have appeared in the literature. Among the greatest authorities on this subject, Seitz,[1] Stoeckel,[2] Essen-Meller[3] and Baumgart[4] have favored active treatment, while Stroganoff[5] and his followers have recommended a conservative management, consisting chiefly in suppression of one of the main symptoms, convulsions. The problem of treatment of eclampsia caused a lively debate in the International Congress of Obstetrics in Amsterdam in 1938. In this congress the request was expressed that all hospitals should periodically publish their reports on eclampsia, so that conclusions as to the treatment could be drawn from these.

This study is based on the records of eclampsia in the Department of Obstetrics of the Hadassah University Hospital and the results of antepartum care during a period of ten years (1929 to 1938).

Eclampsia can be avoided, or at least the conditions of the organism can be so improved that it will occur in a milder form. For this reason it is important that every pregnant woman be under observation at a center for antepartum care. Should signs of preeclampsia appear (edema, high blood pressure and albuminuria [over 1 per cent]), the patient should receive a suitable diet and rest. In case these measures bring no improvement, the patient should be hospitalized; and if hospital treatment (Folhard's diet or blood letting) fails to relieve the symptoms, induced labor is the procedure of choice.

OBSERVATIONS

Incidence.—During a period of ten years (1928 to 1937) 13,212 women were under observation in the stations for antepartum care maintained by the Hadassah University Hospital. During this period there were 496 cases of hypertonia and albuminuria (363 cases of hypertonia alone, 91 cases of albuminuria alone and 42 cases of albuminuria with hypertonia). Eclampsia developed in only 6 of these cases, and in 1 case preeclampsia persisted. All the patients recovered.

One thus sees the great value of this prophylactic method in the treatment of eclampsia. The importance of antepartum care in cases of eclampsia has been recognized by most obstetricians (Baumgard,[4] Seitz,[1] Skrobanski[6]). The more developed the centers for such care, and the greater the attention of the physicians to signs of preeclampsia, the smaller will be the number of cases of eclampsia. Okincitz[7] reported on 184 cases of preeclampsia which were under the control of a station for antepartum

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care. The women were admitted to the hospital, and eclampsia developed in only 18, and in a mild form. Okincitz was justified when he stated: "If antepartum care were further improved, all the discussion as to the treatment would be unnecessary."

Trillat and Rhenter[8] reported still better results. Trillat[8a] mentioned that among 5,764 pregnant women observed from 1919 to 1939 in the Maternity Home of Lyon only 1 had eclampsia, and in this instance the outcome was satisfactory for both mother and child. Rhenter[8b] stated that during twenty years in the Samaritan Maternity Home, in 12,257 pregnancies he has not seen a single attack of puerperal eclampsia.

During a period of ten years (1929 to 1938) my associates and I had a total of 27 cases of eclampsia to 9,079 deliveries, an incidence of 1:336, or 0.29 per cent. A number of the patients in whom eclampsia occurred had no antepartum consultations, and others failed to attend the stations for antepartum care during the last months of pregnancy.

If the incidence during the two half-decades is compared, a reduction in frequency and mortality rate for the second half will be noted.

TABLE I

Period	Deliveries	Cases of Eclampsia	Incidence of Eclampsia	Fatal Cases No.	Fatal Cases %
1929-1934	3,446	12	1:287	3	18
1934-1938	5,633	15	1:375	2	13

The incidence of eclampsia in our hospital as compared with that reported by other institutions is average. The rates given are between 1.31 and 0.11 per cent. (These numbers are drawn from reports by Okincitz,[7] on 86,586 deliveries; Chertok,[9] on 55,262 deliveries; Munro Kerr[10]; Rhenter,[8] on 12,257 deliveries; Trillat,[8] on 19,627 deliveries; McIlroy,[11] on 8,003 deliveries; Mehta,[12] on 42,407 deliveries; Lauros,[13a] on 23,000 deliveries, and Tenberg,[13b] on 23,924 deliveries.)

Weather.—Heuss[14] has noted that eclampsia is more frequent in sudden cold and wet weather. Others, including Gyllensvard,[15] have expressed the opinion that it occurs more often in springtime. Guttmann[16] and Jacobs[17] called it "weather disease." According to Lauros and Panajotou,[18] there is no relation between weather and eclampsia.

As can be seen from table II, a smaller number of cases was observed during the rainy and wet season than in the dry season. During February no cases were observed and during March only 1 case. During the entire rainy season, December to March, there were only 6 cases. All the other cases[19] occurred during the nonrainy period.

TABLE II

No. of Months	Season	No. of Cases
4	December-March	6
8	March-December	21

The highest number of cases in any month (5 cases) occurred during October, while the monthly rate of delivery was evenly distributed. Thirty per cent of the cases of eclampsia occurred during the months of May and October, during which months the rate of delivery was 15.5 per cent. These two months are the months of *hamssin*, when the weather in Palestine is hot and dry. Thus it may be concluded that some relation exists between the incidence of eclampsia and the weather.

Age.—The greatest number of attacks occurred in parturients under the age of 20 (7, or 25.9 per cent), while the number of deliveries in this age group was only 8.6 per cent. In women over 30 years of age the rate of eclampsia was 30 per cent and of delivery 27.8 per cent Similar incidence was reported by Mehta[12], of a total of 192 patients with eclampsia, 104 were under 20 years of age

As table III shows, my associates and I had 5 cases in which eclampsia occurred during pregnancy and 22 cases in which it appeared during or after labor It should be noted that all the fatal attacks took place during pregnancy or after labor

TABLE III

Eclampsia in Different Stages of Pregnancy

	During Pregnancy		*During Labor*		*Post Partum*		*Total*	
	Cases	*Deaths*	*Cases*	*Deaths*	*Cases*	*Deaths*	*Cases*	*Deaths*
Primiparas	2	1	11	0	4	1	17	2
Multiparas	3	1			7	2	10	3
Total	5	2	11	0	11	3	27	5

TABLE IV

		Eclampsia	
	Deliveries	*No of Cases*	*Per Cent*
Primiparas	2 926	17	0 58
Multiparas	6 153	10	0 16
Total	9 079	27	0 29

Table IV shows that there were about four times as many primiparas afflicted as multiparas Unfortunately, in most papers in which the incidence of eclampsia in primiparas and in multiparas is reported, the total numbers of deliveries are not given, so that a correct comparison is not possible In general, it is considered that 70 to 80 per cent of the cases of eclampsia occur in primiparas, and Seitz[1] even called it the "disease of primiparas"

Severity—At the International Congress for Obstetrics held in Amsterdam in 1938, Dr Williams, of Melbourne, Australia, expressed the opinion that the method of treatment used for eclampsia has no influence on the outcome of the case He obtained the same results (20 per cent maternal mortality) in the course of five years of conservative treatment by Stroganoff's method, five years of treatment by cesarean section and five years with no special treatment Berkley, Bonney and MacLead[20] confirmed the view that the prognosis depends on the severity of the eclampsia The London Committee for Eclampsia has elaborated for the British Congress of Obstetrics and Gynecology a series of symptoms the presence of two of which will mark an attack as "severe" (McIlroy[11]) These symptoms are pulse rate over 120, temperature over 39 5 C (103 F), more than ten convulsions, large amounts of albumin in the urine, systolic blood pressure of over 200, and coma

In classifying our patients according to this scheme, we had 5 with severe eclampsia, of whom 3 died (60 per cent mortality) and 22 with mild attacks, of whom 2 died (9 per cent mortality) Three of the patients with severe eclampsia were afflicted during pregnancy Vaginal cesarean section was performed on all 3 of them, and 2 died The 2 fatal cases of mild eclampsia occurred after labor One of the patients died of postpartum hemorrhage, but because one convulsion took place she is considered as having eclampsia

The opinion that male fetuses are responsible for the occurrence of eclampsia is not confirmed by our data We had 13 male and 14 female fetuses

Fetal Mortality—Of 29 newborn infants (2 pairs of twins) 7 died during labor or in the first week postpartum, which means a mortality of 24 per cent, while our general fetal mortality is 5 5 per cent This high mortality rate of eclampsia is due to the great number of premature births (of the 29, 8 were premature). In the literature, fetal mortality rates vary between 55 per cent (Berkley, Bonney and MacLead,[21] Munro Kerr,[10] Trillat[8]) and 12 to 21 per cent (according to Russian authors [Kalinicoff,[21] Upenski[22] and Stroganoff[5]]).

Maternal Mortality.—We had 5 fatal cases, or an uncorrected mortality rate of 18.8 per cent. One of the women included died of postpartum hemorrhage, but because of a single eclamptiform convulsion she is included in our group with eclampsia. Autopsy was not performed. Our corrected mortality rate, therefore, was 14.4 per cent (4 deaths).

TABLE V

Obstetric Interventions

During	*Vaginal Cesarean Section Cases*	*Vaginal Cesarean Section Deaths*	*Abdominal Cesarean Section Cases*	*Forceps Delivery Cases*	*Episiotomy Cases*
Pregnancy	5	2	..	..	..
Labor	1	..	2	6	2

In the literature the mortality rate has been given as 5.6 per cent by Kalinicoff,[21] 25 per cent by Munro Kerr[10] and 21.3 per cent by Mehta.[12]

In 2 cases eclampsia occurred during pregnancy and in 3 after delivery; in no case was it observed during delivery. The fact that of 11 women who had eclampsia postpartum, all of whom had been treated by Stroganoff's method, 3 died, indicates that the conservative method of treatment is not a panacea.

Again the conclusion is reached that the prognosis depends very much on the severity of the eclampsia. All our deaths occurred toward the end of April and in May and during October and November, these being the months of *hamssin.* It seems to me that a relation exists between the severity of the eclampsia and the weather.

Active Intervention for Eclampsia.—Regarding treatment, as has already been mentioned, extreme differences of opinion were voiced at the International Congress of Obstetrics and Gynecology in Amsterdam in 1938. For example, Vignes (cited by Lauros[13a]) expressed the opinion that the conservative method of Stroganoff should be considered the triumph of science and that equally good results could not be achieved by any other method. On the other hand, Dellmas (Montpellier) and Bittmann (Almirtz) (cited by Lauros[13a]), proclaimed complete success with the active method (method of Dellmas and cesarean section, according to Durffler, with lumbar anesthesia). With these differences of opinion in mind it seems worth while to review our cases with obstetric surgical interventions.

All patients who have had eclampsia during pregnancy have been treated actively, by vaginal cesarean section (2 fatal cases). In 11 cases in which eclampsia occurred during labor, the object of treatment was to deliver the child as quickly as possible. In cases in which the cervix was closed or incompletely dilated, a vaginal (1 case) or abdominal (2 cases) cesarean section was performed. In those cases in which the dilatation was found complete, a milder obstetric intervention was the method of choice (forceps delivery in 6 cases and episiotomy in 2 cases). As has been mentioned, there were no deaths associated with eclampsia during labor.

Recurrence of Eclampsia—We had occasion to study the anamnesis of and to follow up our patients who have had eclampsia In 2 cases there was previous history of eclampsia; in 2 cases other attacks of eclampsia occurred in subsequent deliveries, and in 2 other cases the following pregnancy was accompanied by high blood pressure (over 200 systolic) and albuminuria with a concentration of 4 per cent

We thus had in 27 cases of eclampsia 4 cases of recurrence and 2 cases of severe preeclampsia **

SUMMARY

During a period of ten years (1928 to 1937) 13,212 pregnant women were under observation in stations for antepartum care maintained by the Hadassah University Hospital Among these were observed 363 who had hypertonia alone, 91 with albuminuria alone and 42 with both albuminuria and hypertonia In 6 of the women with albuminuria and hypertonia, eclampsia developed, and in 1 preeclampsia persisted All these women recovered The importance of antepartum care is stressed

During a period of ten years (1929 to 1938) in the Department of Obstetrics there were 27 instances of eclampsia to 9,079 deliveries, an incidence of 1 336, or 0 29 per cent During the second half of the decade there was a decrease in the incidence and in the mortality of eclampsia During the months of *hamssin* (hot and dry weather) the incidence, severity and mortality of eclampsia were higher Eclampsia was much more frequent in the group of patients under 20 than in those over 30 Of 27 cases of eclampsia, 5 occurred during pregnancy, 11 during labor and 11 post partum Eclampsia was four times as frequent in primiparas as in multiparas when account was taken of their respective total numbers of deliveries (17 2,926 and 10 6,153)

With regard to the prognosis, the severity of the eclampsia seems far more important than the method of treatment Of 5 patients with severe eclampsia, 4 died, and of 22 with mild attacks, 1 died The fetal mortality rate in the cases of eclampsia was 24 per cent, while the general fetal mortality rate in the hospital has been 5 5 per cent The uncorrected maternal mortality rate was 18 8 per cent (5 cases), and the corrected mortality rate was 14 4 per cent (4 cases)

In 5 cases in which eclampsia occurred during pregnancy, vaginal cesarean sections were performed, 2 of the patients died In 11 cases in which eclampsia occurred during labor, 1 vaginal cesarean section, 2 abdominal sections, 6 forceps deliveries and 2 episiotomies were performed, with no deaths Of 11 women who had eclampsia during the puerperium, 2 died

In 2 cases there was a previous history of eclampsia, in 2 cases eclampsia recurred in a subsequent delivery, and in 2 other cases the following pregnancy was accompanied by severe preeclampsia

SUMARIO

Durante un periodo de diez años (1928 á 1937) 13 212 mujeres preñadas fueron observadas clinicamente en departamentos equipados para antepartum, segun la organización establecida en el Hospital de la Universidad Hadassah Entre estos pacientes, se observaron 363 con hipertonia simple, 91 con solo albuminuria y 42 con ambas, hipertonia y albuminuria En seis de los casos de hipertonia y albuminuria, eclamsia se desarolló, y en uno de estos pre eclamsia

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** Seitz expressed the opinion that eclampsia recurs in 2 to 3 per cent of cases

persistió; pero todas estas mujéres restablecieron.

Durante el periódo de diez años (1929 à 1938), en el Departamento de Obstetricia 27 casos de eclamsia se observaron en 9,079 partos—una incidencia de 1:336, ó sea 0.29 por ciento. Durante la segunda mitad de la década, se observó una disminución en la incidencia y en la mortalidad de eclampsia. En los dias hamssin (de calor y sequedad) la incidencia, severidad y mortalidad de eclamsia se observó elevar. Eclamsia ocurrió con más frecuencia en el grupo de pacientes de ménos de veinte años que en aquellos de mayor de treinta años. De 27 casos de eclamsia, 5 occurrieron durante la preñez, 11 en el parto y 11 despues del parto. Eclamsia se manifestó cuatro veces más frecuente en primaparas que en multiparas, cuando se tomó en cuenta el numero total de partos (17:2,926 y 10:6,153). Con respecto al prognóstico, la severidad de la eclamsia es de mayor significancia que el metodo de tratamiento. De cinco pacientes con severa eclamsia, cuatro murieron, y en 22 casos de forma menos severa, solo un caso murió. La mortalidad del feto en la eclamsia llegó á 24 por ciento, mientras que la mortalidad general del feto en el Hospital es cosa de 5.5 por ciento. La mortalidad maternal sin corrección fué de 18.8 por ciento (5 casos) y la mortalidad corregida fué de 14.4 por ciento (4 casos).

En cinco casos en que la eclamsia ocurrió durante preñez, sección cesarea vaginal fué practicada, y dos pacientes murieron. En 11 casos en que eclamsia ocurrió durante el parto, 1 sección vaginal cesarea, 2 secciónes abdominales, 6 partos instrumentales y 2 episiotomias fueron practicadas sin fatalidad. De once mujeres con eclamsia durante el puerperio dos murieron.

En dos casos se obtuvo historia de eclamsia, y en dos casos eclamsia recurrió en partos subsiguientes, y en dos otros casos la preñez siguiente fué acompañada de severa eclamsia.

RÉSUMÉ

Pendant une période de dix ans (1928–1937), 13,212 femmes enceintes reçurent des soins ante-partum dans les stations maintenues par l'Hôpital du Hadassah Université. On observa parmi ces femmes 363 avec l'hypertonie, 91 avec l'albuminurie seule, et 42 avec l'albuminurie et l'hypertonie réunies. Dans six albuminuriques l'éclampsie se développa et dans un cas l'état pré-éclamptique persista. Toutes ces femmes se rétablirent.

Dans le département d'obstétrique, il y eut (1929–1938) 27 cas d'éclampsie sur 9,079 accouchements. Durant la seconde decade, il y eu une diminution de fréquence et de mortalité dues à l'éclampsie. Durant les mois d'été et de pluies, les cas sont plus graves, et la mortalité est plus élevée. L'éclampsie fut plus fréquente chez les malades en dessous de vingt ans que chez les femmes au-dessus de trente ans. De ces 27 cas, 5 survinrent durant la grossesse, onze durant l'accouchement et onze dans les suites de couches. L'éclampsie fut quatre fois plus fréquente chez les primipares que chez les multipares.

Le pronostic est plus grave dans les cas sévères. Le traitement dans les cas de cette nature est peu satisfaisant. Cinq cas sévères donnèrent cinq décès; vingt-deux cas légers ne donnèrent qu'un décès. La mortalité foetale dans les cas d'éclampsie fut 24 pour cent; la mortalité foetale dans les autres cas d'accouchement n'est dans notre hôpital que cinq et cinq-dixième pour cent (5.5%). La mortalité maternelle nette fut 14.4 pour cent (4 cas).

Dans cinq cas d'éclampsie survenant durant la grossesse, on eut récours à la section césarienne vaginale: il y eut

deux décès; dans 11 cas survenant durant l'accouchement, avec une section césarienne vaginale, deux sections abdominales et deux épisiotomies, il n'y eut aucun décès. Dans onze cas survenant durant le puerpérium, il y eut deux décès.

Dans deux cas, il y avait eu une éclampsie précédente; dans deux cas, il y eut récidive dans une grossesse postérieure; dans un cas la grossesse suivante fut accompagnée d'une sévère pré-éclampsie.

Выводы

В течении десяти лет (1928-1937) 13,212 беременных женщин были исследованы в дородильных станциях больницы Хадасского Университета Среди них было найдено 363 случая только гипертонии, 91 случаи только альбуминурии и 42 случая обоих гипертонии и альбуминурии В шести из последних женщин развилась эклемпсия и в одной преэклемпсия упорно продолжалась

За десять лет (1929-1938) в акушерском отделе оказалось среди 9,079 родов 27 случаев эклемпсии, т е 1 336 или 0 29% Во второй половине этого десятилетия было уменьшение количества и смертности эклемпсии Во время месяцев «хамссина» (жаркая и сухая погода) количество, степень и смертность эклемпсии были выше Эклемпсия среди пациенток моложе 20 лет была более часто чем среди пациенток старше 30 Из 27 случаев эклемпсии, 5 развилось во время беременности, 11 во время родов и 11 после родов Подсчет перво- и многороженниц показал, что в перворожeницах эклемпсия случается в четыре раза более часто (17 2,926 и 10 6,153)

В отношении предсказания, степень эклемпсии является более важной, чем способ лечения 4 пациентки умерли из 5 с сильной эклемпсией, а только одна из 22 с мягкой формой Смертность плода в случаях эклемпсии была 24% по сравнению с 5 5% общей плодовой смертности в госпитале Непроверенная материнская смертность была 18 8% (5 случаев), а проверенная смертность была 14 4% (4 случая)

В 5 случаях эклемпсии во время беременности было сделано влагалищное кесарево сечение, две больные умерли В 11 случаях эклемпсии во время родов были сделаны 1 влагалищное кесарево сечение, 2 абдоминальных сечения, 6 наложений щипцов и 2 эпизиотомии ,все без смертности Из 11 женщин с эклемпсией после родов две умерли

В 2 случаях была предыдущая история эклемпсии, в 2 случаях эклемпсия повторилась в последующих родах и в 2 случаях последующая беременность была сопровождена сильной преэклемпсией

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A New Nasal Tissue Clamp Used in a New Method of Narrowing the Columella

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THE full importance of the columella as a factor in nasal disorders is not always recognized. Its position between the external openings of the nose necessarily makes its size and shape of significance in determining the amount of air which may enter and leave the nostrils and the pressures exerted in the process. It also deserves consideration from the esthetic, or cosmetic, viewpoint.

The columella may be unusually broad throughout; it may be broad at its base, where it is continuous with the philtrum of the upper lip, or it may be asymmetric, with resulting difference in the size of the nasal openings.

If a general increase in breadth exists, there is a corresponding narrowness of the nostrils. This narrowing may so decrease the volume of inspired air below the normally required amount that the resulting conditions simulate a more deep-seated disorder of the nasal cavities and mislead the physician in the choice of treatment. For example, the internal nasal condition may suggest the desirability of a submucous resection for its relief. If the condition is, in fact, due primarily to disturbance of the inspiratory function, an operation on the septum without an accompanying columellar correction will not relieve the patient's difficulty.

From the work of Proetz[1] and others on the physiology of the nose, it is now well established that the inspired air must enter the nares in amounts that are between optimum limits, and under suitable pressure, in order that it may follow the path designed for proper functioning of the nasal mucosa.

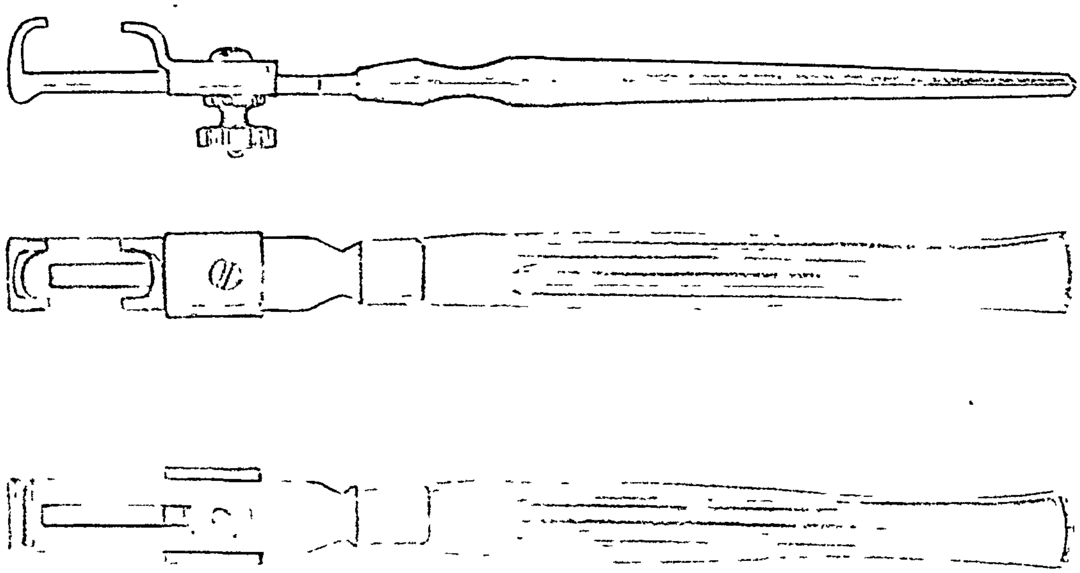


Fig. A. The nasal tissue clamp for use in reduction of the columella

The operative method in general use has been that of simply excising a narrow oval or angulated piece of tissue from the midline of the columella. Correction of undue width in this way necessarily leaves a scar, which may be disfiguring unless healing takes place strictly by first intention.

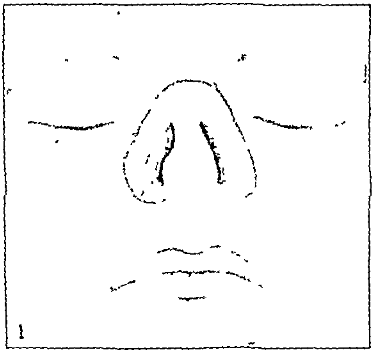
To avoid the complication of scar formation, removal of excessive tissue has been done by separating the columella from its attachment to the lower border of the septum and removing such tissue from the lateral borders as is necessary for obtaining proper width. There are difficulties in this method also, however. I have been able to overcome these difficulties satisfactorily by the use of an originally designed tissue clamp specifically suited to this purpose.*

The clamp (Fig. A) is usually constructed of stainless steel; it may also be had in chrome plate. Its over-all length is 6⅜ inches (16.2 cm.). The handle is like that of the customary heavy weight surgical knife. At the distal extremity, which is ⅜ inch (1 cm.) wide, there are at either outer angle small recurved prongs. Proximal to these, there is a sliding attachment of the same width, with exactly similar prongs, which are curved toward those at the tip of the instrument and are of the same size and shape. The sliding portion is adjustable by means of a thumb screw, which allows an excursion of ¾ inch (1.9 cm.).

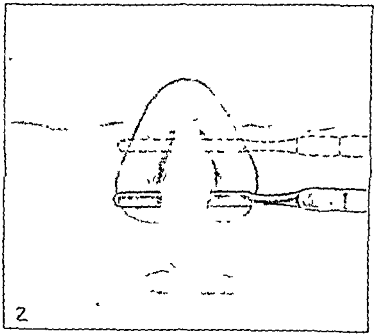
This instrument is made entirely of metal and can be easily sterilized.

Employing the clamp, I operate as follows (steps 1 to 8 are shown in the accompanying illustrations):

After the customary steps for cleaning and sterilization of the operative field, local anesthesia is secured by infiltration at three points along the midline of the columella, from tip to base, with a 1 per cent solution of procaine hydrochloride containing 1:100,000 epinephrine hydrochloride. As a rule, not more than 2 cc. is sufficient to secure complete loss of sensation.



Step 1 The operative field prepared (nose with a wide and unequal columella)



Step 2 Button end knife separating the septum from the columella

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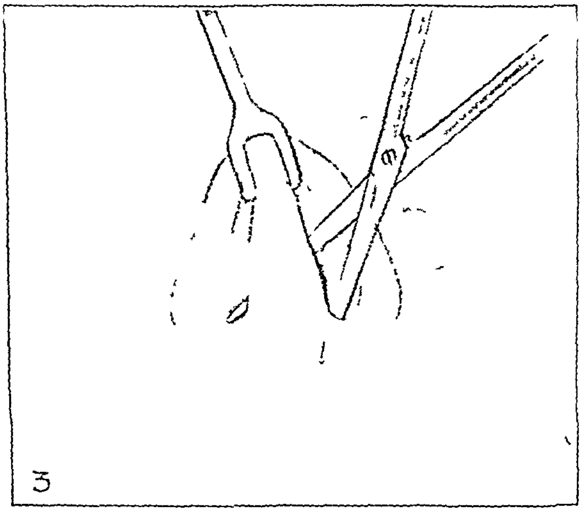
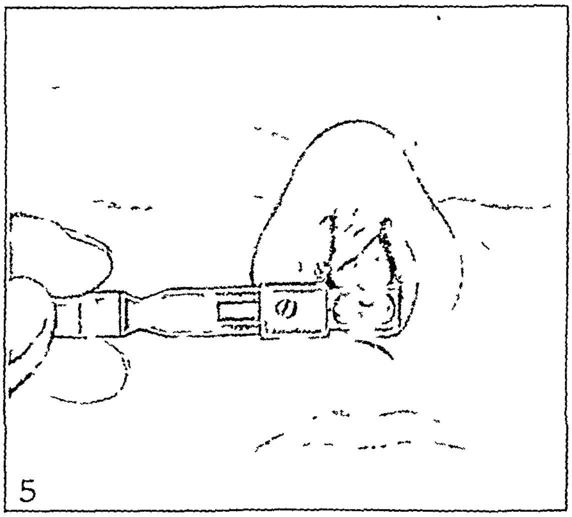
* This clamp was demonstrated by me for the first time at the Ninth National Assembly of the United States Chapter of the International College of Surgeons, Philadelphia, October 1944.

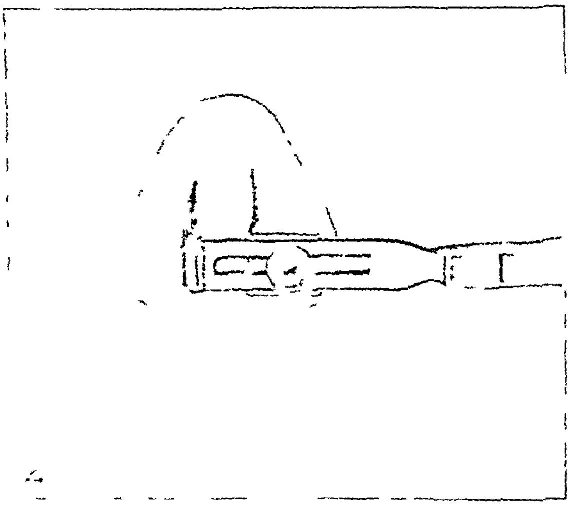
With a button end knife, an incision is made in the columella at the mucocutaneous junction and carried through to a similar point on the opposite side; this separates the columella from the lower border of the septum. With the use of scissors, the tissue is then freed from the anterior-inferior nasal spine by increasing the extent of the primary incision and undermining freely at the base of the columella. When this incision is completed, the tissue clamp is inserted through it, and rests between the posterior columellar surface and the lower border of the septum. The columella now lies at right angles to the instrument and between the two pairs of curved prongs. The clamp is adjusted and secured by fixation with the thumbscrew.



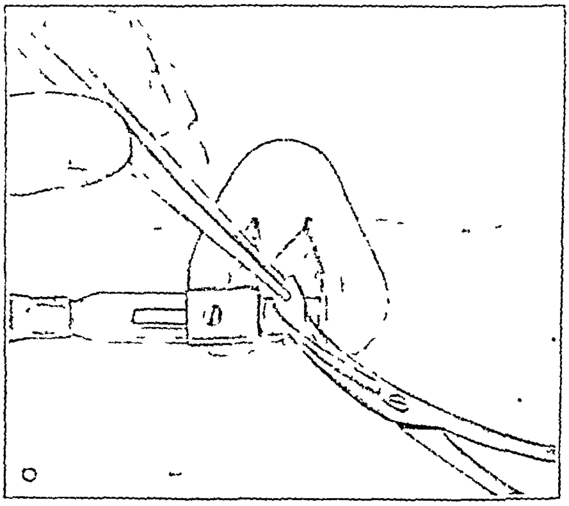
Step 3. Scissors separating the base of the columella.



Step 5. The instrument everting the tissue and presenting the posterior surface.



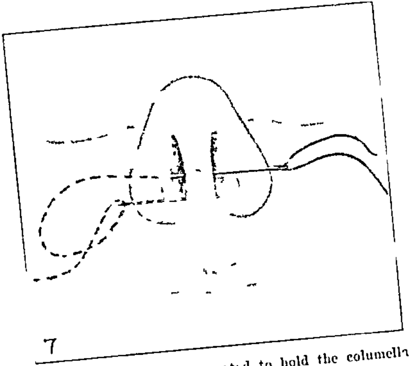
Step 4. The nasal tissue clamp applied to the columella.



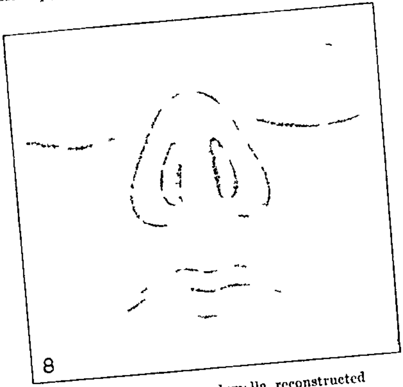
Step 6. Section of cartilage and subcutaneous tissue removed with scissors.

With the tissue fixed firmly in the grasp of the clamp, the handle is turned through a half-circle, in the manner of a lever. This effects eversion of the strip of tissue which is held by the clamp.

With the columella thus held in the clamp, the excess of septal cartilage and



Step 7 Two sutures inserted to hold the columella in the narrowed position



Step 8 The wide columella reconstructed

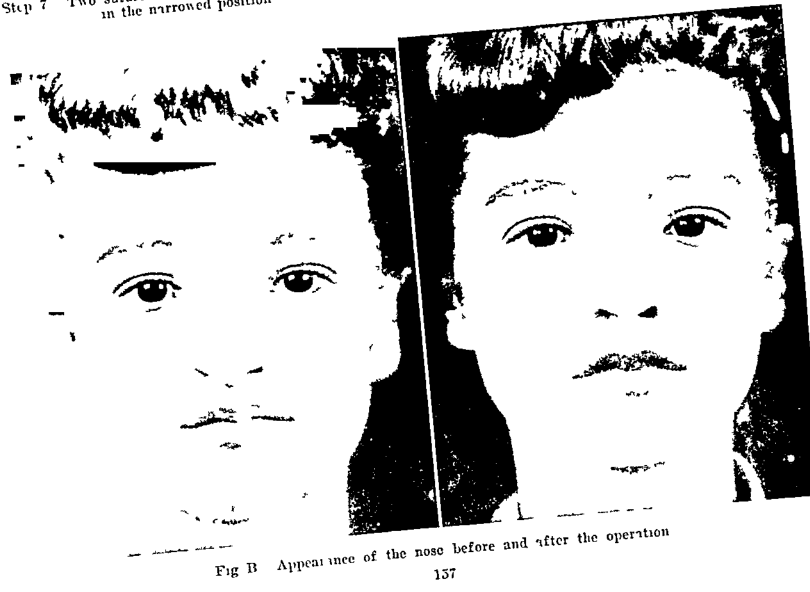


Fig B Appearance of the nose before and after the operation subcutaneous tissue with overlying skin is removed. The clamp is then detached, and by means of two sutures the septum is reconnected with the columellar tissue and the narrowed columella is held in suitable position. Either cotton or silk suture material may be used.

A dressing of "kephrine"-sulfathiazole gauze** is packed into both nostrils, and a small pad of gauze is strapped by means of adhesive plaster beneath the lower surface of the nose, thus covering the field of operation. The sutures are removed at the end of five days.

The results are excellent (Figs. B and C). The size of the nares is increased, with corresponding improvement of respiratory function. In cases of irregular or unequal nostrils, there is also esthetic correction.

This technic does not require hospitalization.

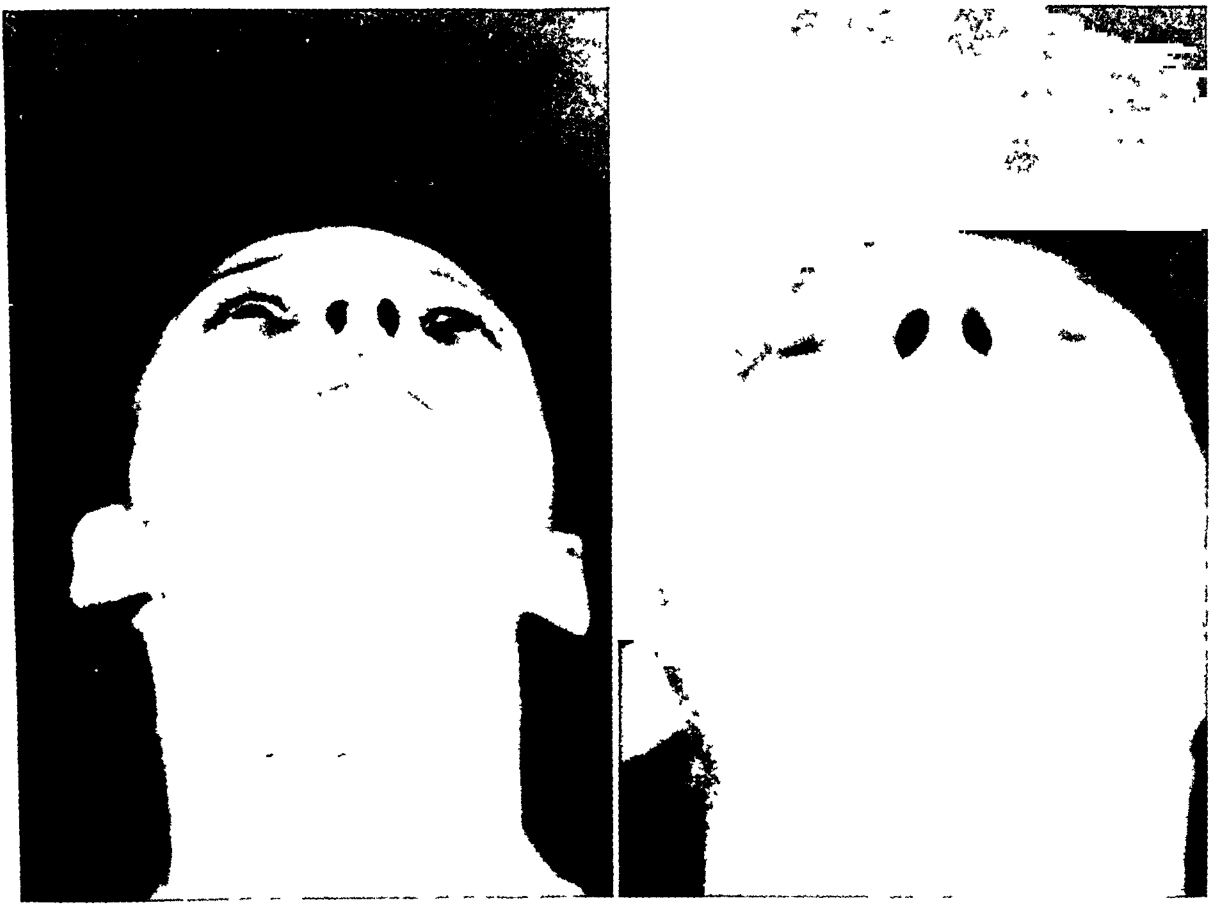


Fig. C. Appearance of the nose before and after the operation.

SUMMARY

With the new metal clamp here described and illustrated, the columella, freed from the nasal septum and from the anterior-inferior nasal spine, can be held everted while excessive septal cartilage, subcutaneous tissue and skin are removed. The results obtained with this method of narrowing the columella have

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** K[illegible] hydrochloride is methylaminoaceto [illegible] been excellent both functionally and esthetically.

SUMARIO

Con la nueva tenaza de metal aqui descrita é ilustrada, la columella, separada del septum nasal y del aspecto anterior é inferior de la espina nasal, puede mantenerse abierta mientras exceso de cartilago, tejidos subcutaneous y piel son recortados.

Los resultados obtenidos con este metodo de reducir la columella han sido excelentes con respecto á funcion y estética.

RÉSUMÉ

Avec la nouvelle pince ici décrite et illustrée, la *columella nasi* est exposée largement, libérée de la cloison nasale et de l'épine nasale antérieure et inférieure. On peut ainsi facilement enlever tout cartilage, tissu sous-cutanée et peau excessifs. Les résultats obtenus par l'emploi de cette pince sont excellents du point de vue fonctionnel et esthétique.

Выводы

При помощи новой описанной и иллюстрированной металической клеммы, *columella*, отделенная от носовой перегородки и переднего нижнего носового отростка, может быть выворочена пока лишнии носовои хрящ, подкожная ткань и кожа удалены Этот способ с'ужения columellae дал, функционально и эстетически, великолепные результаты

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A Revived Treatment for Varicose Veins

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THE treatment of varicose veins by ligation and suture through the skin may be considered under three headings, which group the varicosities according to the severity and type of the pathologic processes present at the time of the medical examination:

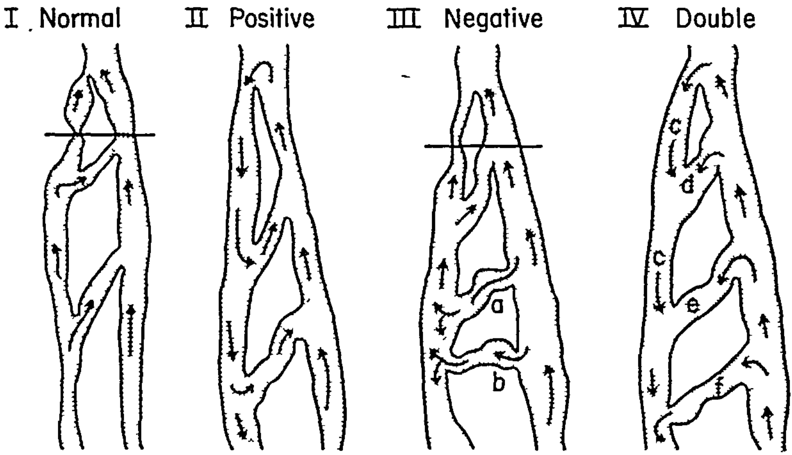
CLASSIFICATION OF VARICOSITIES AND TREATMENT

Group 1: *Isolated saccular varices, solitary dilated veins interposed between other varices, and fine cutaneous dilatations (spider burst).*[1] Many of these dilated veins may appear to involve only a small area, but the deep venous circulation and the great saphenous vein near its communication with the femoral vein should be studied. If it is proved by the application of the Trendelenburg,[2] Pratt,[3] Perthes[4] and Mahorner and Ochsner[5] tests that the varicosities are limited to a given area, I feel justified in limiting the treatment to the local varicosities.

For the patients with only a small area of veins involved, the treatment may be given with local anesthesia, as an office procedure, but patients with extensive lesions should be hospitalized. On the evening before the operation, the extremities are involved, a few turns the same care as is used for bone surgery. The patient is then placed in an upright position and the veins outlined with a staining solution. In particular, one should mark the sacculations that are indicated to exist by the Pratt test and that are shown to contain inadequate valves in the branches communicating with the deep venous system.

At operation, the extremities are again prepared and the patient is placed in a head-elevated position, the body sloping upward to about 6 inches (15 cm.). This position aids in partially filling the veins so that they may be palpated beneath the stained markings. The operative procedure is begun by attacking the varicosities that are most proximal on the extremity. Fine chromic catgut is used with a thin curved cutting edge needle just sufficiently long so that it is thrust through the skin lateral to the vein it can be passed out through the skin close to and medial to the vein, which is thus encircled by a single loop of the suture. The suture is tied. The same process is repeated, the sutures being placed close enough together so that no filling of the veins exists between the two sutures. At the tributary branches two sutures are placed about ½ inch (1.3 cm.) apart on each communicating branch. When the Pratt test reveals incompetent valves, sutures must be placed closer together to interrupt the communicating branches.[6] The spider bursts are destroyed by placing the sutures so as to grasp the venules as they radiate outward. In the feet, the needle should not be thrust deep into the tissue beyond the vein, but the sutures should be placed as near as possible just beneath the vein. On completion of the operation, the extremities are dusted with sulfathiazole powder and sterile dressings are applied and then sheet wadding; if large areas of the extremities should be prepared with of plaster are applied to assure that the dressings remain in situ. The knee joint is always left mobile. The foot of the patient's bed is always elevated 6 inches, to prevent edema. The patient is encouraged to exercise the extremities as soon as the soreness subsides. The tissue reaction caused by the chromic catgut cuts across the veins, so that by the end of two weeks the sutures may be removed without fear of recanalizing the veins.

The advantage of the treatment is that all the varicosities can be treated at one time and within a reasonable time the pinpoint scars from the sutures disappear. With the old method of cutting and stripping, not only is the patient left with permanent indurated scars, but it is impossible to remove all the surrounding tributary branches, which usually become more prominent as time passes. The practice of using a sclerosing solution injected into the veins is valuable in very small areas of veins, but when there are extensive varicosities it not only requires numerous treatments but always involves danger of sclerosing the deep veins, since so frequently with large varicosities areas with incompetent valves communicate with the deep veins, as shown in diagrams III and IV.



Interpretation of results of the Trendelenburg test I Normal With the tourniquet in place, the superficial blood empties into the deep veins II. Positive On removal of the tourniquet, there is a rapid reflux of blood down the great saphenous vein, but the communicating valves to the deep veins are normal. III Negative With the tourniquet in place the veins fill rapidly from below at the incompetent communicating valves *a* and *b*. IV. Double. Incompetent valves of both the great saphenous vein *(c)* and the communicating valves *d*, *e* and *f*, filling defects as in both II and III.

Group 2: *Tortuous, lengthy varices with incompetent valves plus all the variations that occur in group 1.* In treatment of these varicosities it is necessary to ligate the great saphenous vein with its main branches at its termination in the femoral vein, and then follow the dilated branches down with the method used for lesions of group 1. For weeks after the patient is able to be about, the foot of the bed should remain elevated, to aid in minimizing the edema that tends to occur in the upright position. The patient should wear an elastic bandage when on duty during the period of tissue readjustment. Varices of this group usually require an extensive operation, often eighty to one hundred sutures, since the varices joining the deep veins more frequently have multiple incompetent valves. This is the group for which treatment by ligation and retrograde injection of a sclerosing solution has become so popular. The danger with this treatment is that when once the sclerosing solution is released it is impossible to determine how much will be carried through the incompetent valves into the deep veins.

Group 3: *Healed varicose ulcers plus all the variations of group 2.* An ulcer should always be healed and the scar tissue covering the area should be firm before any attempt at surgical treatment is made in the indurated tissue. If healed ulcers are not treated surgically, many will break down again in the form of chronic leg ulcers.

The treatment begins with a longitudinal incision, carried well beyond the indurated tissue. The vein that enters the induration from above is ligated. The incision is carried through the indurated superficial and deep fascia, exposing the muscle fascial planes. At this point the skin flaps with the fascial layers are dissected laterally until the dissection is carried well beyond the indurated area. The skin is then picked up again and dissected from the indurated fascial planes to beyond the induration. Large, dilated veins will be cut in this dissection, but the bleeding can be controlled by mere pressure. The fascial planes are sutured together with a few interrupted sutures, and the skin is sutured separately. This procedure is based on the same principle as that used in the Kondoleon operation for elephantiasis. The varicosities in the extremities are treated as described under group 2.

COMMENT

In cases of acute thrombophlebitis developing in the superficial veins of the lower extremities, the ligation and suture treatment will shorten the duration of disability. This fact is in agreement with the findings of other investigators.[7]

When large varicosities exist in association with compound fractures, the varicosities should be treated as outlined for group 2; otherwise there exists the danger of thrombophlebitis complicating the injury.

I have chosen to refer to the procedure as a revived method of treatment because, after I had treated a sufficient number of patients to justify requests for opinions by members of the profession, a surgeon[8] pointed out that thirty years ago a similar method was used in the teaching hospitals of Budapest. This method of interrupting the superficial varicosities, studied over a period of six years, has convinced me that superficial varicosities can be successfully treated without scarring and without recurrence, provided the patient has an adequate deep venous circulation.

SUMMARY

The treatment of varicose veins by ligation and suture through the skin varies with the type and severity of the pathologic process. Three main classes of varicosities are defined.

Suturing superficial varicose veins through the skin obliterates them without producing noticeable scarring. Recurrence of varicose ulcers can be prevented by surgical treatment of the involved veins by this method after the ulcers are healed.

SUMARIO

El tratamiento de las venas varicosas por medio de ligacion-sutura incluyendo la piel varia según el tipo y severidad de los cambios patológicos.

Trés clases principales de varicosidades son aqui detalladas.

La sutura de venas superficiales incluyendo la piel las destruye sin causar notable cicatriz. Recurrencia de ulceras varicosas puede ser evitable por tratamiento quirúrgico de las venas afectadas despues que las ulceras han cicatrizado.

RÉSUMÉ

Le traitement des varices par la ligature et la suture à travers la peau varie avec le type et la sévérité des lésions pathologiques. L'auteur definit trois catégories de varices.

La suture à travers la peau des varices superficielles oblitère ces vaisseaux sans produire de cicatrices perceptibles. On peut par cette méthode empêcher la récidive des ulcères variqueux. Il est nécessaire pour obtenir ce résultat que les ulcères soient guéries avant de pratiquer la suture percutanée.

Выводы

Лечение варикозных вен лигатурой и кожным швом зависит от типа и степени патологического процесса. Установлены три главных класса варикозных вен.

Кожные швы поверхностных варикозных вен производят их облитерацию без заметных шрамов. Рецидив варикозных язв может быть предотвращен хирургическим лечением вовлеченных вен после того, как язвы залечены.

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(Continued on page 168)

Ascites of Seven Years' Duration

(Report of a Case)

CARL J. DEPRIZIO, M.D., F.I.C.S.
MANSFIELD, MASS.

THERE is considerable medical and surgical literature now available on cirrhosis of the liver and cardiac decompensation with or without ascites. The subject matter is so extensive in its medical, surgical and pathologic aspects that no attempt is made to discuss the various phases except that of ascites and that only as a clinical complication. Many cases of recovery are reported following treatment, either medical or surgical. However, the majority terminate fatally within a few months, in spite of all therapeutic efforts. Life expectancy in either pathologic condition associated with ascites may oscillate between one month and two years.

Many clinicians, even today, are impressed by the occasional patient with ascites who survives for a year or longer. The prognosis in portal cirrhosis and cardiac decompensation with or without ascites is better now than formerly, at least insofar as duration of life is concerned. Comfort and Snell[2] reported that in a group of over 100 cases the average length of life from the onset of ascites was about thirty-eight months. No doubt such increase in life expectancy may be due in part to improved methods of treatment and also to low incidence of complicating or intercurrent diseases. The treatment of ascites with special diet, ammonium salts and mercurial compounds (Salyrgan, Merbaphen, etc.) has proved beneficial in at least 80 per cent of the cases.

McCabe and Hart[3] reported five patients suffering from hepatic cirrhosis with ascites who were put on a high carbohydrate diet and as much insulin as they could tolerate comfortably. One patient lived a little over five years and apparently without return of the ascites. Grinnell[5] reported 23 cases of cirrhosis of the liver with ascites in which omentopexy was performed. One patient had been tapped twenty times. The span of life was not prolonged as much as with other methods. Hertenyi has stated that in cirrhosis of the liver the ascites is doubtless the only symptom of a vascular decompensation. He is of the opinion that in the majority of cases the duration of life after the appearance of ascites ranges between five and sixteen months. The remissions, either spontaneous or as a result of effective therapy, occasionally observed in portal cirrhosis are still unexplained. Very good symptomatic effects are often produced by diuretics in many selected cases. Such results frequently point to valuable clues as to underlying pathology, prognosis and type of treatment.

CASE REPORT

A. J. H., aged 58, white, married, machine factory foreman, was first seen in consultation on Nov. 27, 1930. He complained of dyspnea, edema of legs and palpitation. For three months he had been confined to his home under treatment, receiving digitalis, diuretics and cathartics with considerable relief at first but of late he was becoming increasingly worse. Up to one week ago he had been ambulatory but had not subjected himself to any undue exertion. His appetite was well sustained, sleep not disturbed, but he noted considerable weakness. The swelling in the abdominal and scrotal regions was enlarging rapidly causing dyspnea on least exertion.

Past medical history and family history were essentially negative except for bilateral inguinal herniae, easily reduced and maintained by trusses.

Examination showed a well developed, well nourished cheerful white man lying comfortably in bed in semi sitting position Head, eyes, neck normal Lips were somewhat cyanotic and cheeks were flushed Heart sounds were of fairly good quality in spite of definite mitral murmur T 98 4, R 24, P 68 and regular BP 158/96 Deep respiratory excursion was limited somewhat and both lung bases exhibited coarse moist rales and dullness to percussion The abdomen was full skin tense, umbilical depression obliterated, tympanitic in epigastric region but flat in both flanks and in suprapubic region Fluid wave was easily elicited by tapping The scrotum was enlarged to size of grapefruit with moderate edema of all soft tissues The distal half of the scrotum was easily transilluminated, the proximal portion showed no light whatsoever Both inguinal rings were enlarged and reduction of herniae was easily accomplished but could not be retained in the abdomen There was pitting edema of both feet and legs extending up to knees The thighs buttocks and back were normal to inspection and palpation

Several *urinalyses* up to this time showed 2 plus albumin Blood Wassermann was reported negative Stools were consistently negative for gross blood

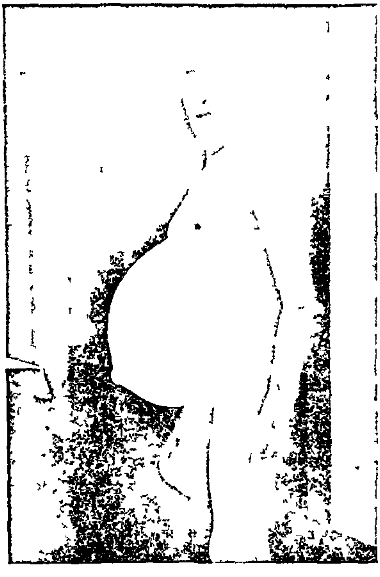

Fig 1 Taken 3 18 37 just before a paracentesis Note tremendously distended abdomen and protruding umbilicus The thighs and buttocks are free of fluid The legs and feet show moderate edema

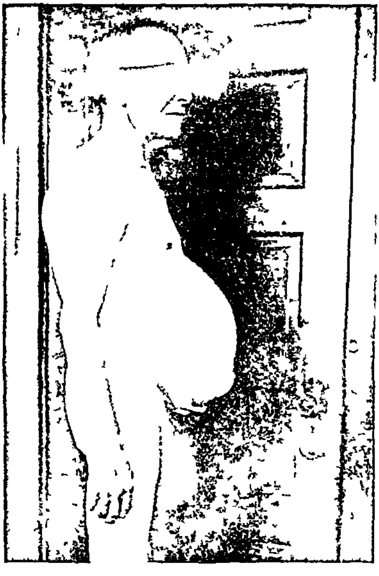

Fig 2 Taken on 3 20 37 After removal of 1550 cc of fluid The weight loss was 34 lbs and the abdominal circumference was decreased by 7 inches Thigh and leg appear normal The distended abdominal wall remains prominent but no clinical signs of fluid were perceptible The dressing on the umbilicus was necessary due to a self inflicted excoriation

Hospitalization was advised and urged, but patient refused "He preferred to die at home" Treatment was outlined, consisting of digitalis, diuretics limitation of fluid, diet and bed rest Fortunately he was given excel lent home care by LMD, his wife and daughter, who was a registered nurse of excellent ability. There was remarkable improvement in four weeks and for six months he was free of edema and ascites.

In June, 1931, a second breakdown occurred which resisted improvement in spite of adequate medical therapy. The patient again refused admission to the hospital, totally disregarding his serious condition. The first abdominal paracentesis was performed on June 25, 1931. Under local anesthesia and with patient sitting in chair 1200 cc. straw-colored fluid were removed from abdomen and 950 cc. from scrotum. The patient withstood the procedure without any discomfort. Both incisions drained freely for about 72 hours and then healed rapidly. Medical treatment was continued, and he remained comfortable for over one year, showing only slight edema of feet and lower part of legs at end of day. He was allowed to be up and about for several hours each day and frequently a short automobile ride for diversion. But on Sept. 6, 1931, he was in serious condition again. Another abdominal paracentesis was resorted to, relieving him of 14.000 cc. of fluid. From this time on it became necessary to tap him regularly every four or five weeks to keep him comfortable, in spite of excellent diuresis with two Salyrgan injections biweekly and ammonium chloride by mouth and other therapeutic adjuncts. The accompanying chart is self-explanatory.

CHART I

Year	No. of Paracenteses	Average Amount of Fluid Removed at Each Operation
1931	*1	12.950 cc.
1932	3	13.000
1933	12	13.600
1934	13	12.800
1935	12	13.500
1936	12	13.900
1937	8	14.600

* Includes scrotal tap of 950 cc

The patient lost from 30–35 lbs. in weight following each procedure and 6–7 in. in waistline, only to increase again. In 1937 the average amount of fluid removed showed a slight increase of about 6 to 7 per cent in paracentesis. This may be of some significance.

Summary of Laboratory Data: Wassermann and Kahn tests were negative. Rbc 4¼–4½ million, Hgb 80–85 per cent. W.B.C. 7200–9760, with normal differential in 1931 and 1932. In 1934 the P.M.N. count was 81 per cent and eosinophils 3. In 1936 these had increased to 85 per cent and 5 per cent respectively. Urine: specific gravity 1.016 to 1.028, Albumin 2–3 plus, few casts, occasional R.B.C. and W.B.C. Icteric index: 5–7. Rosenthal liver test was normal in 1932 and 1934 but 12.14 and 15 in 1935, 1936 and 1937 respectively. Renal function test—P.S.P.—was consistently within normal limits. The ascitic fluid ranged in specific gravity from 1.004 to 1.008. On two occasions the Wassermann was negative. Microscopically it showed few fat cells and crystals and occasional R.B.C. and few W.B.C. on centrifuge specimen.

The patient was suddenly seized on Aug. 28, 1937, with severe substernal and precordial pain and expired within a few hours.

Clinical diagnosis: Coronary thrombosis, chronic endocarditis and cirrhosis of liver due to myocarditis.

DISCUSSION

After a review of the literature this seems to be the longest case of ascites to be reported. The patient lived seven years from the time of the first appearance of the fluid in the abdomen and six years from the time of the first paracentesis. There were no untoward symptoms during or after each operation. The suprapubic midline region was used exclusively without any incidence of bleeding, infection or delayed healing. The small incision and trocar puncture were never sutured and the fluid continued to exude for forty-eight to seventy-two hours until the opening sealed itself. After each tapping the patient remained in bed for two days, then he insisted and was permitted to be moderately ambulatory up to three or four days prior to the next emptying. The engorgement of the abdominal and thoracic veins was never marked, nor was he troubled with uncomfortable hemorrhoids, as is often the case. The feet and legs would become slightly edematous, but he never reached the stage of distressing dyspnea. It became a favorite pastime with him "to keep a record of the many friends and relatives whom he buried during those long years." While this case lacks the postmortem anatomic evidence to corroborate the clinical findings and diagnoses, it is nevertheless of considerable interest in view of the unexpected duration of a fairly comfortable life.

SUMMARY AND CONCLUSION

1. A case of ascites, complicating cardiac decompensation, of seven years' duration is reported.
2. The patient was tapped sixty-one times without untoward results.
3. In spite of this complication upon cardiac and liver pathology the patient lived a fairly comfortable life during those years without the aid of narcotics.
4. With digitalis the heart was kept at constant rate, and only during the last few months did the pulse show any irregularity.
5. This probably represents the longest case of ascites on record with undoubtedly the largest number of paracenteses ever performed on one individual.

SUMARIO

1. Se hace relación a un caso de ascitis complicando decompensación cardíaca de siete años de duración.
2. El paciente recibió sesentaiuna punción (paracentesis-abdominalis) sin mal efecto.
3. No obstante esta complicación de origen cardio-hepático el paciente vivió cómodo esos años sin hacer uso de narcóticos.
4. Con el uso de digitalis el corazón mantuvo un curso constante y únicamente en los últimos meses de vida se notó irregularidad del pulso.
5. Probablemente este caso representa el más prolongado de ascitis, en los anales, e indudablemente el más número de paracentesis aplicadas en un solo caso.

RÉSUMÉ

1. Un cas d'ascite compliquant une décompensation cardiaque est analysé. L'ascite avait duré sept ans.
2. La paracentèse fut pratiquée soixante-et-une fois sans sequelles désagreables.
3. Malgré l'existence de complications cliniques pathologiques cardiaques et hépatiques, le malade mena une vie assez comfortable. Il ne fut jamais nécessaire d'avoir recours aux narcotiques.
4. A l'aide de la digitale, le rythme cardiaque fut maintenu et ce n'est que dans les derniers mois que le pouls montra quelque irregularité.
5. Ce cas est probablement le seul rapporté dans la littérature d'une ascite d'une aussi longue durée et ayant été soumis à une aussi grand nombre de paracentèses.

Выводы

1. Описан случай асцита осложняющего семилетнюю декомпенсацию сердца.
2. Брюшной прокол был произведен шестдесят один раз без всяких неблагоприятных результатов.
3. Несмотря на это сердечно-печеночное осложнение больной провел в эти годы довольно спокойную жизнь без помощи наркозных препаратов.
4. Биение сердца было постоянно регулированно дигиталисом, и только в последние месяцы был константирован нерегулярный пульс.

5. Этот случай может быть является самым продолжительным доложенным случаем асцита и, безусловно, с самым большим количеством парацентезов произведенных на одном человеке.

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IN MEMORIAM

FRED HOUDLETT ALBEE, M D, F A C S, F I C S

SURGEON, FRIEND, AMERICAN

When **Dr. Fred Houdlett Albee** died unexpectedly on Feb 15, 1945, the surgical world was shocked and grieved Even the laity mourned For our late confrere *loved* humanity to the same degree that he served it

His death brought sorrow to those who had known him at any time, from the days of his boyhood in a small town in Maine to the days when he received the highest honors in foreign lands For international recognition had been his, as well as the highest that could be given in the United States Here was a prophet who *was* honored in his own country

Of his activities, affiliations and honors there is no need to specialize here The fact-loaded obituary in the *Journal of the American Medical Association* (Feb 24, 1945) contains these details If supplementation is needed, it can be found in "Who's Who," in medical and surgical directories or in Dr Albee's autobiography, "A Surgeon's Fight to Rebuild Men"

Fred H Albee
1876–1945

It was with this rebuilding of men that Dr Albee was chiefly concerned when he died He was then and had been for many years, chairman of the Rehabilitation Commission of New Jersey After World War I, in which he served as a colonel in the Medical Reserve Corps of the United States Army, he was active in rehabilitation work both in the United States and in other countries Many a war blasted man can walk the streets and look the world in the face again because of Fred Albee's skill

Two of his special contributions as a pioneer in orthopedic surgery were the Albee bone mill and the technic of bone grafting The fundamentals of these two great contributions to mankind were found, he used often to say, in boyhood experiments with a saw mill and in helping his grandfather, who was an expert in tree grafting

Harvard Medical School gave Albee his degree in medicine This he supplemented by extensive studies in Europe and England, when European medical universities and clinics were in their hey day, not yet seduced by state medicine and the panel system nor ravaged by war's destruction

Later he took his own ideas abroad At the Inter Allied Congress in Rome, Paris and Bologna, in 1919, and at the Netherland Orthopedic Congress in 1923, Dr Albee attended as the official representative of the Medical Corps of the United States Army Honorary membership and awards were given him by various foreign scientific organizations after demonstrations of his original methods in European and Latin-American countries

Among the international and American

organizations of which he was a member, and in most instances an officer, are the American College of Surgeons, the International College of Surgeons, the International Society of Orthopedic Surgeons (of which he was founder), the American Orthopaedic Association, the American Academy of Orthopaedic Surgeons and the Pan-American Medical Association.

Dr. Albee was consulting surgeon to more than twenty hospitals and was professor and director of the department of orthopedic surgery at the New York Post-Graduate Medical School and Hospital, of Columbia University.

Among his publications are well known textbooks, especially on bone surgery. The most recent of these is "Bone Graft Surgery in Disease, Injury and Deformity," published in 1940. These textbooks make available his methods of work. His autobiography will keep alive his personality and ideals.

His domestic life was as enviable and as uplifted as his surgical career. With Mrs. Albee he found a one-ness such as is granted to few couples in marriage.

Dr. Albee's manysidedness was summarized by Dr. Francis Harvey Green, of Pennington, N. J., who gave his funeral sermon:

"We know he was a loving husband, a devoted father, a faithful friend, a broad-minded citizen, a genial gentleman. We think of him as a trained scholar, a thoughtful educator, an impressive lecturer, an interesting author, a distinguished medical doctor. Everyone familiar with his life knows he was a successful fruit grower, an extensive traveler, a clever inventor, a wise promoter, a great nature lover. . . . Whatever he did, he did well. I have always felt he measured up to the thought of George Eliot in Stradivarius:

> "'Who draws a line and satisfies his soul.
> Making it crooked where it should be straight?'"

Emphasizing the enduring quality of Dr. Albee's life and work, Dr. Green quoted from Carlyle:

"Cast forth thy act, thy word, into the ever-living, ever-working universe: it is a seed-grain that cannot die; unnoticed today, it will be found flourishing as a banyan grove after a thousand years."

On the day when Fred Albee's remains were laid to rest, he was accoladed by a most distinguished group of pall-bearers, both active and honorary. The list is too long to be published. Among the members of the International College of Surgeons in the group were the venerable Max Einhorn, the devoted Albert A. Berg and Custis Lee Hall, his life-long friend William Seaman Bainbridge, his brother-in-arms Col. Harold D. Corbusier, the retiring Watson B. Morris, the Chesterfieldian John Royal Moore, the kind Milton Bodenheimer, and such splendid Fellows as Gustav Aufricht, Henry Scheer and Charles Phillips. Many others also were on hand to lay at the foot of the bier the wreath of affection from the International College of Surgeons.

Even the weather was kind on that Sunday afternoon. Beams of sunlight percolated through the stained glass windows, whose colored shadows vied with the beauty of the masses of flowers that veiled the coffin. But like a halo over the music, the prayer, the sermon and all the other minutiae of consigning mortal remains to rest, somehow the spirit of Fred Albee seemed present, as if to engender anew in the hearts of men a spirit of hope. Surely if saints there be waiting for men in the after-world, their greeting to Fred Albee must have been "Well done, thou good and faithful servant of all mankind!"

* * * * *

Dr. Albee had keen interest and faith in the International College of Surgeons. He was in the College from its incipiency and believed it to fill a vital need of surgery and of humanity. Impressed with its ideals, aspirations and motives, he exerted every possible influence for its advancement. He lived the College, breathed the College and, outside of his own professional activities, devoted all of his spare moments to it. He spent long hours at meetings and traveled thousands of miles throughout the Western Hemisphere to preach the gospel of surgical advancement and of aiding younger men and those other goals to which the College aspires. He did not spare himself. He was far from well when he undertook a trip in the interest of the College to various points in Latin America His pioneering and his correspondence with surgical luminaries of the world have done much to solidify the College activities Every ideal of the College was a personal fetish with Albee

When scandal touched the hem of the garment of a fellow surgeon, Fred Albee fought valiantly to remove the stain He had no ear for whispered propaganda, no patience with malefactors He detested Machiavellianism He was an example of rugged Americanism Courageous, outspoken and fearless, Albee's positive attitude inspired confidence He would go to any length for the culmination of a worth while undertaking He often appeared overenergetic and dominating But in that manly chest of "Fred," as he was lovingly called, beat a heart of sincerity—a warm heart, a dependable heart Once his mind was made up as to what was right, Fred Albee remained as adamant, inflexible in his decision He never failed the College day or night, rain or shine, he was generous with his time, counsel and devotion One of the pillars of our structure has been dislodged with the passing of Fred

At a special meeting of the International Board of Trustees of the International College of Surgeons, the following resolution was passed

"*RESOLVED*—That in the death of our former President, Dr Fred H Albee, the International College of Surgeons has sustained a grievous loss His charming personality, his broad vision, his great surgical skill, his willingness to sacrifice his own self for the benefit and advancement of surgical science and the betterment of the sick and injured, will be sorely missed

"We extend the deepest sympathy to his wife and family in the great loss they have sustained

"THE INTERNATIONAL BOARD OF TRUSTEES

"(Signed) Desiderio Román, President"

Unfortunately it is impossible to print the multitude of telegrams, cablegrams and letters that have been received from leaders of the College in the United States and from representatives and chapters elsewhere, especially from Latin American Countries, including Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Haiti, Honduras, Mexico, Panama, Peru, Uruguay and Venezuela The tenor of them all is the same It is exemplified in the following excerpts from a letter sent to Mrs Albee by the First Vice President of the United States Chapter

"I am grieved to hear of the death of Doctor Albee In his passing the surgeons of America and the world have lost a constructive leader and thinker Organized medicine and surgery have sustained *an irreparable* loss and the International College of Surgeons a devoted champion and founder Strong in his convictions for the right and equally militant at the appearance of sinister motives, Doctor Albee possessed those innate qualities of leadership which motivate great men and great minds in all the lands of the world

"(Signed) Herbert Acuff"

Typical also is the following communication from the Mexican Chapter

"El Capítulo Mexicano del Colegia Internacional de Cirujanos lamenta profundamente el fallecimiento del eminente cirujano Dr Fred H Albee,   , expresidente del Colegio

"El recuerdo del Dr Albee señalará siempre el genial progreso que a el debe la moderna cirugía ortopédica Su nombre perdurará como brillante luminar en la obra quirurgica de rehabilitación física y moral

"Sus colegas y amigos de Mexico evocamos aquella su atrayente y simpatica presencia, emocionalmente contristados por esta su *irreparable y definitiva perdida*

"(Signed) Gonzalo Castañeda
"Presidente Nacional"

(Translation)

The Mexican Chapter of the International College of Surgeons is deeply, grieved by the death of the eminent surgeon Dr Fred H Albee   , ex president of the College

The memory of Dr Albee will always call to mind the splendid progress that modern orthopedic surgery owes to him His name will endure as a brilliant star in the surgical work of physical and moral rehabilitation

We his colleagues and friends of Mexico pay tribute to his attractive and sympathetic personality, saddened by this irreparable loss.

(Signed) Gonzalo Castañeda
National President

The day after he heard the news of Dr. Albee's death, Dr. Francisco Graña published an article in the largest newspaper in Lima, Peru, in which he said:

". . . the master possessed all the attributes of an exceptional man: creative inspiration, devotion to the profession, perseverance, passion for continuous work and unlimited altruism. And for this reason we saw him, after thirty years of continuous work, traveling around the world, like the prophets, spreading the gospel of his scientific discoveries. . . . And all this full of enthusiasm, of captivating optimism and of touching simplicity. He was the type of man who no longer belongs to his race or country, but to humanity. There is no doubt that he has gained the indisputable right to be considered a worldwide surgeon. . . ."

* * * * *

Phrases are meaningless unless backed by experience. Personally, one of life's greatest and most gracious gifts to me has been my personal contacts and my close friendship with Fred Albee. To be with him was to learn. He was a rare example of an American citizen and an honorable man.

It is difficult to believe that Fred has left us. Rather let it be said that he is still with us—by the force of his example, by his written work that is an ever-living testimony, and by the gratitude that wells from the hearts of thousand of his colleagues and patients, both in America and in other lands. Let me repeat with Henry Ward Beecher:

"When the sun goes below the horizon it is not set; the heavens glow for a full hour after its departure. And when a great and good man sets, the sky of his world is luminous long after he is out of sight. But a man cannot die out of this world. When he goes he leaves behind much of himself. Being dead, he speaks."

M. T.

The expressions of appreciation of Dr. Albee and tributes to his memory for which we could not find space in this issue, as well as those received too late for publication here, will be included in the special Albee Memorial Number of the Journal (see announcement on page III).

For information about membership in the International College of Surgeons and other matters pertaining thereto, address the International General Secretary, International College of Surgeons, 850 W. Irving Park Road, Chicago 13, Illinois. Inquiries concerning the United States Chapter should be addressed to Mr. Ralph E. Osborne, The Drake, 1512 Spruce St., Philadelphia, Pa.

Editorials

Entre Nous

(A Fillip to Fraternity)

THERE *are* differences, obvious and important, between the International College of Surgeons and other colleges. Other existing surgical colleges are *national*. Ours is *international*. Further, ours is a *postgraduate teaching organization, not merely a surgical society*.

The International Board of Trustees guards with zeal our College's international activities. Its program will never be permitted to drift unilaterally, or to gravitate toward purely national endeavors. The structure of the College *will (and must) always remain international. This is the very raison d'être of the College!*

The Fellows connected with a teaching institution, or with a hospital where they can impart knowledge to their younger and less skilled colleagues, are the teachers of the International College of Surgeons. *They are in duty bound to teach.*

For this reason every member is given an identifying surgeon's booklet, or "surgical passport." Upon presentation of that, his confreres in any part of the world will accord him welcome and assuage his needs for the acquisition of surgical knowledge to the best of their ability. I believe it was Newton who said "From contemplation we may become wise, but knowledge comes only from study."

Another distinction between the College and surgical societies is that in surgical societies, as a rule, only the mature and finished surgeon is acceptable as a member. Regrettably, in many societies the membership is limited! As if there could be any rule by which to judge the number of competent surgeons to be found in a city, a region, or an entire country! Such an attitude is a veritable *pons asinorum,* such as could be erected only by the pompously selfish. Yet such bridges have been erected, buttressed by jealousies, intolerance and those human inhumanities which the civilized world is now bent on eliminating, or at least mollifying.

In the International College of Surgeons there is a *different attitude*. Our organization knows no such artificial structure. In our College, the degree of Fellow is the highest attainable, and there is room for all who crave to work, and opportunity for the highest achievement.

The membership strata are as follows: Novices are known as *Matriculates*. More advanced younger men are designated as *Affiliates*. Gradually acquiring proficiency, the Affiliates in time become *Associates*, and finally attain to the degree of *Fellow*. Such a graded process is characteristic of the activities of the College in every ramification. Through labor, all honors become possible.

Another advantage of this system is that, as in many institutions of learning, if insufficient progress is made during a period of five years, a holder of any one of the three lower degrees (Matriculate, Affiliate, or Associate) may be dropped from the College roster.

All this is in line with the objectives of the incorporation of the College, i.e., to blanket the world with an international organization of such surgical proficiencies and scientific prowess that any aspiring surgeon in any part of the world who needs help that only sympathetic fellow-surgeons can render shall have that service, and (this is the greater mission of the two, perhaps) *to enable any man anywhere with the gifts and the competency to become a surgeon to receive the counsel and encouragement and the expert instruction that will lift him toward that achievement.*

In a wartorn world, particularly, this internationally cooperative training of surgeons is the keystone in the building of a surgical family to render service to a suffering human race—a race, too, so mutilated by the ill fortunes of war and conquest that in surgical proficiency alone can restoration be found.

* * * * * * *

The International College of Surgeons is financed from the fees and dues of its constituents. The bulk of such fees and dues (80 per cent) is retained by the chapters (located all over the world). *Only a modicum of a Chapter's fees and dues (20 per cent) comes into the treasury of the Central Body, or functioning head.* This money is used to cover office expenses, printing, diplomas and insignias, and for rendering support to the International Assemblies, to the *Journal* and to similar international activities. *Thus, each Chapter unreservedly controls its own funds.* Bequests are the property of the endowed Chapter. Article XXV of the Constitution of the United States Chapter so mandates:

> "BEQUESTS OR FUNDS.
>
> 1. Voluntary donations, gifts, bequests, or legacies to the United States Chapter become the unrestricted property of, and shall be used at the sole discretion of the Chapter."

In the International College of Surgeons, not one officer receives a penny's worth of salary or of any other financial assistance or support.

Because organization as well as man must live, *financial aspects and ethical ideals must needs go hand in hand.* This duality has been kept well in mind in the planning of the International College of Surgeons. This is why the bulk of the money is retained by the treasuries of the various chapters. This, instead of following the traditional pattern other societies and colleges, which retain all administrative fees and dues in the central treasury.

The United States Chapter, for instance, *controls all its funds and is under no financial obligation whatsoever to the Central Body except in payment of the comparatively small percentage alluded to above.* Their treasury (a substantial one, and may it continue to prosper!) offers the Chapter opportunity to expand the educational activities of their particular Chapter as they see fit. *This holds true with all other Chapters.* The Central Body seeks no part of Chapter funds except the stated modicum. This is democratic and as it should be, *a course stripped of bureaucratic interference.* The International Constitution is specific and clearcut on this phase of College activities. Let me cite Article IX:

> "DISTRIBUTION OF FEES AND DUES
>
> 1. In any country organized into a Chapter, 80 per cent of dues and fees collected in that Chapter shall remain the property of the Chapter, and 20 per cent shall go to the International Treasury to defray the expenses of the General Central Office."

And in this connection let me point to Article XXIV, which reads

"AUTONOMY OF CHAPTERS

1 The Chapers of the various countries representing the International College of Surgeons are autonomous in their functions and are free to formulate by laws to suit their respective needs so long as such by laws abide by and conform to the Constitution and By Laws of the International College of Surgeons "

No, indeed, there is not a tinge of bureaucracy in this our organization

* * * * * * *

The Scriptural "Love thy neighbor as thyself" cast its beneficent shadows over the conference at Yalta *For no class or race of men can hope to live alone and survive* Our educational crust of bread must be shared, and the final drops of the waters of understanding in the canteen divided

* * * * * * *

None of our Chapters has ever asked for material aid The International Board of Trustees is, nevertheless, constantly on the alert to be of help to *all* Chapters in their emergencies There exists no individual (and there never will be any, we hope) in the International College of Surgeons who would begrudge aiding those who are in dire straits because of war conditions

* * * * * * *

In the occupied territories, conditions confronting the population are by far the most appalling in the history of civilization The Church, in all its creeds, has recognized this quite generally Congregations everywhere have been urged constantly to greater generosity where foreign missions are concerned, ever since the outbreak of the war One of the ablest pleas in this direction has come annually from His Eminence Samuel Aloysius Stritch, Archbishop of Chicago In his Diocesan letters the Archbishop points out plainly that the work of enlightenment must go on, and its support must come, not from *those who have not*, but from those who have A deaf ear is turned upon protestations of, "Why should we have to give for France? Or Poland? Or Russia? Or for Italy? Or for Holland?" The leading Protestant denominations are sponsoring "wartime service funds," both for work among individuals and for support of "orphaned" enterprises of churches of European and other countries Likewise, the Quakers serve humanity! Yes religion and real humanity make no exception—they care for the suffering everywhere And that "Universal Mother," the International Red Cross! Surely the world's *physical healers* have never shirked their obvious duty in this regard Our College has extended aid in many forms, but never, as stated, from Chapter funds *These are sacred funds, reserved for education, and will never be touched for other purposes*

Where there is suffering there can be no discrimination in the distribution of mercy, or of spiritual support, or of scientific service

What manner of man, then, what sort of scientist, would cavil at playing the big and generous brother to fellow scientists whose hospitals, schools, colleges, equipment, laboratories, apothecary shops and even nursing staff lie devastated

A murmur could come only from Cain himself, "Am I my brother's keeper?" The answer comes from thinking men, from ethical men, and from pure hearted scientists It is "Until this drunken world is sobered, we *are* our brothers' keepers And when the world is again on its feet, unless it has learned this lesson it will continue not as a civilized organism but only as a maelstrom of disorganized sadism.

The genuine scientist dare not be selfish, with his skill, his scalpel, his shekels or his services. He must teach by example as well as by precept. Only thus is survival possible, and survival must be coupled with the transmission both of knowledge and of the way to its acquisition.

Our Chapters have kept faith! *The Central Body has met its obligation and has not, and will not, seek contributions from any of its constituents.* The parent body is proud of the progress of the Chapters and of their autonomous functions. True, some Chapters *cannot contribute*, for the present, their dues in American dollars, but they *do contribute* in what ways they can, except in those parts of the world which are under the heel of or strangled by Fascist fanaticism. With our colleagues there our sympathies are wholehearted and genuine.

* * * * * * *

Americans are justly proud of their Bill of Rights and their Constitution. Our International College of Surgeons is equally proud of its Constitution and By-Laws.

But, human beings being what they are, occasionally the solid work of the pioneers is forgotten, and for one reason or another an attempt is made to meddle with these constitutions. Younger men, particularly, are apt to overlook the work of the pioneers and founders who with sacrifice and blood have created principles of conduct as solid as the proverbial Rock of Gibraltar.

In discussing this problem, one cannot but recall the tragic life of Thomas Paine. It is of him that Lafayette said, "To me, America without Thomas Paine is unthinkable." And yet, after giving so much of himself to the American Revolution and to the creation of the Constitution of the United States, with its precious Bill of Rights, Paine received abuse and torture, both physical and mental, at the hands of those who benefited from his labors and sacrifices. When he returned from France, where he narrowly escaped the guillotine, Paine was denied *even the right to vote.* This, on the grounds that his long absence made his American citizenship questionable, and because he had helped to frame the constitutions of the sister republic France!

None could say of Paine that he wanted money, because he had given his all, his salary, his very life for his beloved America! So he was called an atheist, a drunkard. Neither was the truth. Thomas Paine was not an atheist. He was a God-fearing man. We read, in his "Age of Reason":

> "I believe in one God and no more, and I hope for happiness beyond this life—I believe in the equality of man, and I believe that religious duties consist of doing justice, loving mercy, and in endeavoring to make our fellow creature happy."

And we read in his Last Will and Testament, written when he was ready to leave this world:

> "I herewith take my final leave of them (his heirs and the world). I have lived an honest and useful life to mankind; my time has been spent in doing good, and I die in perfect composure and resignation to the Will of my Creator—God."

And yet this man was persecuted, calumniated and scorned as an atheist!

The Constitution of the United States was even then being attacked. Now, if a chance were given to certain elements, this Constitution would still be attacked. There was the beginning of smear campaigns in the United States. Regrettably such vilifications have survived in all their degrading sliminess.

Our resolve is that our Constitution, the Constitution of the International College of Surgeons, so thoroughly anchored for the welfare of its constituents and for international undertakings, with strength firmly solidified for the progress of the College, shall be spared interference from stray meddlers.

There can be no better way of handing down ideals than that adopted by the International College of Surgeons. There is nothing new about the system. The methods were old when Egypt was young and the Ptolemies and Pharaohs dreamed only vaguely of their pyramids, while the hermetic mysteries were *passed down from priests to neophytes*. The Talmud tells of this same system, so do the Old Testament, the Veda and every other known historic record.

Through these processes, whenever mortal vicissitudes force the laying down of the torch by the skilled hand, there is another hand, trained and ready to pick it up. This is the bond between the mortality and immortality of science. This is one of the ideals that the International College of Surgeons seeks to attain. Only one of the many ideals for which, through the centuries, men have fought, suffered and died, in the name of science.

This method gains strength in the International College of Surgeons through its *inherent surgical internationalism*.

If that cherished *surgical internationalism* were not foremost in our minds and activities there would be no need for our existence. For, nationally, there is in the United States the American College of Surgeons, and other countries have their respective national colleges, which ably fulfill their missions.

With the International College of Surgeons there is a world wide interchange of learning, teaching, communion and thought. This makes for a great and unified *surgical family* with all responsibilities and communal prosperity of a primitive tribe or clan and the same protectiveness through which the family remains the most powerful unit even in these hectic modern days.

Only from such units of brotherhood in science, economics, religion and the arts can be built a new edifice for this broken world.

* * * * * * *

Plans are progressing for the establishment of a *central home* for the International College of Surgeons. This will be located in the city of New York under the leadership of our Dr. Albert A. Berg. A home where a surgeon wearing a fez, or the robes of India, or the turban of the Orient, or continental attire—a surgeon from anywhere on the globe—may rest and quench his thirst for knowledge and communion with kindred spirits.

Now, like the tocsin from an imaginary minaret, from the belfrey of a great institution of learning in Lima, Peru, the message is sent out to the surgeons of the world to gather there the second week in September in the year of our Lord 1945, to meet, fraternize, exchange scientific thoughts and enjoy spiritual intercourse under the leadership of our much admired and respected Prof. Dr. Francisco Graña, First Vice President of the International College of Surgeons. There the College will plan and build for the future.

* * * * * * *

The Central Body functions in the most protected part of the civilized world. The United States has escaped the casualties that have wrecked every other nation, temporarily at least.

Out of the fulness of the cup, which truly "runneth over," let every protected, nonimpoverished Chapter give at least one sip of its encouragement, hope and succor to its brother sons of Aesculapius, and extend a helping hand to those in regions where for so long Mars has reigned supreme. —Max Thorek

Committee on Documentation of Priorities

At the meeting of the International Board of Trustees of the International College of Surgeons held at the Waldorf Astoria Hotel, New York, N. Y., on March 4, 1945, the following resolution, included in the agenda, was unanimously adopted:

"*Whereas,* in years gone by, individuals have claimed originality for surgical procedures which the literature discloses to have been practiced and described previously by others,

Be It Resolved, that the President of the International College of Surgeons appoint a committee to represent a Board of Documentation of Priorities, whose function it shall be to investigate claims for priorities in surgical innovations, establish dates of original contributions to the literature, and report their findings in the *Journal of the International College of Surgeons*, and to issue, upon request, certificates of documentation to those who have been proved to be entitled to priorities in having devised surgical procedures and instruments recorded in the medical-surgical literature."

Since the beginning of recorded medical history, claims of priority and originality have harassed the annals of medical science and distorted the accuracy of recorded data. In the interest of justice to the toilers of science and to stimulate truth and genuineness in the contribution to knowledge made by the members of the surgical profession and allied sciences, it has been felt by the officers and trustees of the International College of Surgeons that we should create a department in the College to investigate evidence in order to correct previous errors and to prevent future recording of erroneous claims.

The committee established for this purpose is under the chairmanship of Prof. Rudolf Nissen and will include eminent historians, such as Prof. Arturo Castiglioni, formerly of Europe and now of Yale University, and other leaders in the study of the history of medical knowledge. Encouragement will be given to all originators of procedures and makers of discoveries to *record* their investigations and results in the current medical literature. Claims to priority, both present and past, will be evaluated authoritatively and adjudication made. The results of the evaluative investigations will be published in the *Journal of the International College of Surgeons,* and certification will be made to each individual found to have a just claim to priority or originality.

Desiderio Román, M.D.
President, International College of Surgeons

The Spanish Section of the Journal

(Translation of Editorial in Spanish Section, Page 191)

IN this issue the special Spanish Section of the *Journal* is established. It shows a modest beginning, with three original articles and a few news items. We confidently expect, however, that with capable promotion by the three associate editors who have been appointed (too recently to get much material to us for this issue) the section will develop into an important part of the *Journal*. (These editors are Drs. Francisco Graña, Herman de las Casas and Manuel A. Manzanilla—see Spanish Section.) As time goes on, the section will contain not only original scientific articles by Latin American authors but book reviews, editorials and news of events of surgical significance in Latin America and of activities of Latin American members and chapters of the College—all of these to be collected by our three associate editors for the section.

This section is the forerunner of similar sections in French, Russian, Italian and other languages which will be established as soon as world conditions permit receipt of material regularly from European and other countries. That time may not be so far away. In the past few months regular mail service has been established between France and the United States, and exchanges are again possible with French periodicals. A request was recently received in the editorial offices for reestablishment of exchange relations with Sweden. A journal from Rumania has reached us, the first received for a long time. It is heartening to know that scientific work is in progress in Europe, and that many of the leaders whom we remember from prewar days are still carrying on. It is heartening also to realize that people in newly accessible countries are eager for international scientific relations and cooperation and are looking to the Americas, with their greater resources and security, to lead the way.

A personal letter to the Editor from a Chinese surgeon, received just as we go to press, states that the Chinese Chapter is active. The formation of the Palestinian Chapter is announced elsewhere in this issue. Recent correspondence with libraries in Palestine indicates that they too are eager for cooperation with us in the West.

The Spanish section, then, is more than a mere number of pages written in Spanish. It is a significant step in reorganizing the *Journal of the International College of Surgeons* to make it representative of world wide surgical progress.

CORRECTION

In the article by Dr. Austin T. Moore, entitled the "Unstable Spine," in the January February issue of the *Journal*, figures 3 and 4 (pages 67 and 68) were reversed. The legends are correct.

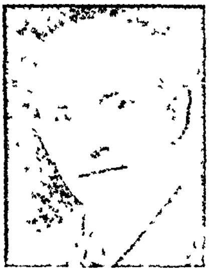
CHAPTER NEWS

UNITED STATES CHAPTER

In compliance with the request of the Office of Defense Transportation, the United States Chapter of the International College of Surgeons has canceled its annual assembly. Special district and guild meetings are being held to compensate for the absence of the assembly.

The **Joint Educational Program and Sectional Meeting (District 5)** of the International College of Surgeons held in Birmingham, Ala., on February 14 is reported to have exceeded all reasonable expectations both in attendance and in interest. The registration was about 225, and the actual number present was close to 300.

Gilbert F. Douglas


Herbert Acuff

About 150 of the physicians registered were from Birmingham, but almost 70 were from other cities and towns in Alabama, and 9 were from other states, including representatives from Philadelphia, Pa., the Panama Canal Zone, Washington, D. C., Tennessee, North and South Carolina, Georgia and Florida.

The meetings were held at the University Hospitals, and Dr. J. W. MacQueen, administrator of the hospitals, and other members of the staff were most cooperative throughout the undertaking. Officials of the medical school of the University of Alabama and of the Jefferson County Medical Society were also highly cooperative.

Dr. Gilbert Douglas, F.I.C.S., Regent of District 5, was active in arranging the meeting, and he and Mrs. Douglas gave an informal tea at their home after the afternoon session. A complimentary buffet luncheon was provided at noon by the university, and the County Medical Society gave a cocktail party in the evening, preceding the dinner at the Thomas Jefferson Hotel.

Dr. Herbert Acuff, F.I.C.S., First Vice-President of the United States Chapter and Regent of District 6, presided at the morning session and helped with the arrangements. Dr. Hughes Kennedy, Jr., president

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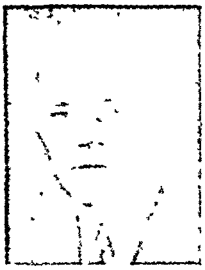
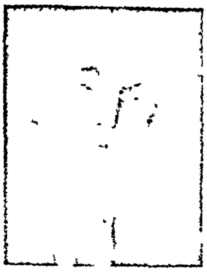
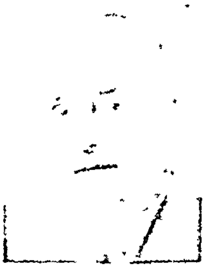
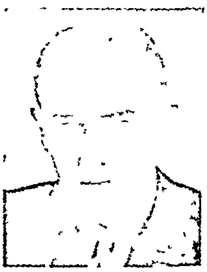

Edgar W. Davis


Moses Behrend


Roy R. Kracke


Major John Pick

of the Jefferson County Medical Society, gave the opening address of welcome, and Dr Roy R Kracke, dean of the Medical College, University of Alabama, welcomed the visitors to the hospital

Scientific papers were read as follows "Cancer of the Colon," by Dr Moses Behrend, F I C S Philadelphia, Chairman of the Board of Examiners of the United States Chapter of the International College of Surgeons, "Ruptured Disc," by Dr Austin T Moore, Columbia, S C, "The Indications for Splenectomy," by Dr Roy R Kracke, dean of the Medical College, University of Alabama, 'Surgery at Northington General Hospital," by Gen W R Dear, Commanding Officer, Northington General Hospital, Tuscaloosa, Alabama (read for him by a representative of that hospital), "Penicillin," by Lt Col I William Nachlas, M C, A U S, Northington General Hospital, Tuscaloosa Ala, "Dermoplasty of Healed Burned Dorsum of the Hand" (read by title), by Major John Pick, M C, A U S, F I C S, chief of plastic surgery, Northington General Hospital Tuscaloosa, Ala, "Surgical Management of Patent Ductus Arteriosus" by Dr Edgar W Davis, Washington D C, "Endocrine Gynecology," by Dr E C Hamblen Duke University, Durham N C, "Tumors of the Male Breast," by Dr Julian C Pate, Sr (by title) Several of these papers will be published in early issues of the *Journal*

At a meeting of the **Nebraska Guild** of the International College of Surgeons held Friday December 8, in Omaha, talks and demonstrations were given by members of the faculty of the Creighton University School of Medicine Dr Charles M Wilhelmj, dean of the School of Medicine spoke on modern medicine Others who took part in the program were Dr Harry N Boyne, F I C S, associate professor of oral surgery, Dr Rudolph Yechout, instructor in oral surgery, Dr William Sucha, associate professor of orthopedics, Dr Leo Conkley, F I C S, instructor in otology and rhinology, Dr M C Howard, associate professor of medicine, Dr Regis Weland, instructor in pathology, Dr Earl A Connolly, associate professor of surgery, Dr Louis B McGuire assistant professor of surgery, and Dr Roy W Fouts, professor of forensic medicine and medical economics Dr S J Carnazzo, F I C S, instructor in surgery and president of the Nebraska Guild, conducted the meeting

It will be recalled that a few years ago Dr T J McCarthy, F I C S of Lincoln, Neb, in accordance with the educational ideals of the College, presented a substantial endowment to the medical school for the purpose of making postgraduate study available to members of the Nebraska Guild Before the wartime need for physicians became so critical, any member of the guild was permitted to study at Creighton through Dr McCarthy's endowment, and this will again be possible when the shortage of doctors is relieved

At the organizational meeting of **District Study Guild No 3**, held in Philadelphia, Pa, on February 14, the following officers were elected chairman, Dr William L Martin, F I C S, Philadelphia, vice chairman, Dr David B Allman, F I C S, Atlantic City, N J, secretary treasurer, Dr Leonard D Frescoln, F I C S, Philadelphia

At the **Annual Clinic Day** of the **Mount Carmel Mercy Hospital**, Detroit, Mich, January 31, the speakers included Dr Carl S Ratigan chief of staff of the Mount Carmel Mercy Hospital, Dr Roger V Walker, president of the Academy of Surgery, Dr F H Topp, in charge of contagious diseases at Herman Kiefer Hospital, Detroit, Dr Elmer Hess F I C S Erie, Pa, well known in the field of urology, Dr Thomas H McGavack, associate professor of medicine, New York Medical College, Dr Ward F Seely, of Detroit, Dr H Ransome, associate professor of surgery at the University of Michigan Medical School, Dr C A Smith, chief of medicine at the Children's Hospital, Detroit, and professor of pediatrics at Wayne University, and Dr Max Thorek, International General Secretary of the International College of Surgeons

A special feature of the luncheon meeting was a talk by Dr A C Furstenberg on a postwar program for medical education

Scientific exhibits were presented by members of the staff of Mount Carmel Mercy Hospital, several of them members or Fellows of the International College of Surgeons. The latter included Drs. William J. Cassidy, William A. Chipman, Samuel Flaherty, Charles W. Husband and Louis J. Gariepy. Dr. Gariepy was formerly chief of staff at this hospital, and Dr. Chipman is now secretary and treasurer.

Dr. Desiderio Román, of Philadelphia, Pa.. International President of the College, spoke on "Latin-America and the Old World" at a meeting of the Pan-American Cultural Group at International House in Philadelphia on March 7.

"Our Charlie."—All of Charles H. (Charlie) Arnold's friends are rejoicing with him over his promotion from major to lieutenant colonel in one of the theaters of war.

He writes: "It is remarkable what one can accomplish with lacerated lung tissue, bowel injuries and other visceral insults, with the aid of blood plasma, penicillin, sulfa. and good surgical judgment."

Most of our readers will have little difficulty in recognizing Charlie Arnold in the photograph on page 901 of the *Journal of the American Medical Association* for Dec. 2, 1944 (he is sixteenth from the left among the men standing). This photograph shows a group of men who attended a three day meeting of United States and British Army medical officers at a large United States Army general hospital in France, where they exchanged ideas on the treatment of battle casualties. This was the first conference of its kind in that theater of the war.

Charlie wrote the Secretary en route to London, where, on February 5, he was to address the Royal Society of Medicine, adding that he expected to see Hamilton Bailey and to meet Rodney Maingot, British surgeons who are also vitally interested in the College. (He did meet and visit with them, to mutual advantage and satisfaction.)

From the very beginning of the College activities, Charlie has been devoted to our cause and unswerving in his belief in the College ideals. While men differ, those differences are usually minor, and he has looked upon them in that light. He has stuck to the principles, and misunderstandings have been washed away. He has lived for the College night and day.

Who of us does not remember Charlie's keen desire to enter the armed forces? He divorced himself from all activities, home ties, patients, lucrative practice, with only one thought: to get into the fray. That is Americanism. That is devotion. That is manliness. That is "Our Charlie," Lieut.-Col. Charles H. Arnold.

Some of the Fellows will undoubtedly like to write to Charlie. He will appreciate it. Mail will reach him addressed

Lieut.-Col. Charles H. Arnold, 0200931,
99th General Hospital,
APO 350, c/o Postmaster,
New York, N. Y.

We are sure that Fellows of the International College of Surgeons all over the world will join in saying, "*Congratulations*, Lieutenant-Colonel Arnold!"

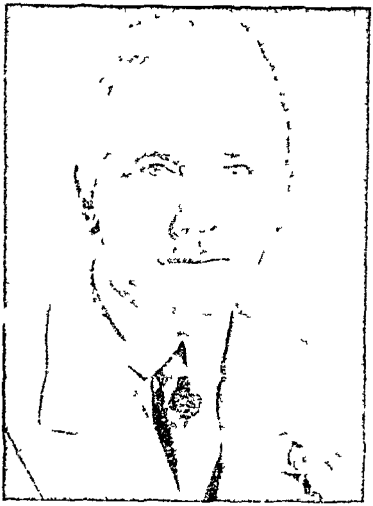
At the meeting of the **Los Angeles Guild** of the International College of Surgeons, held on February 28, each of the fifteen members present was given an opportunity to express himself concerning anything that was on his mind for the welfare of the local group. Many splendid suggestions were made. One of the most significant was Dr. L. J. Butka's suggestion that, inasmuch as the International College of Surgeons has active international committees, it would be well for the international officers to attempt to influence the administration at Washington to include a member or members of the medical profession, preferably of the International College of Surgeons, to serve on the health panel when peace comes and international affairs of all types are untangled. The power of the International College of Surgeons to spread the propaganda of good will was emphasized by Dr. H. O. Bames and others. Dr. Bames gave an account of the work of the plastic surgeons over the world and stressed their aim to advance not only medically and surgically, but socially, economically and in the field of fine arts The thought of the meeting seemed to revolve around the manner of promoting international good will through the medium of the College A by product of that discussion was realization of the fact that we in America are woefully ignorant of the art of being ideal hosts to persons of other nations It was suggested that two committees be organized in the present Southern California group, *one committee to prepare scientific pro*grams for the guild and the other committee to plan meetings with an international background from the standpoint of science culture and political implications

Dr Felix Cunha, of San Francisco, regent of District 21, met with the guild Dr E *Forrest Boyd, F I C S, president of the* guild, presided

Note See special announcement on page 186

ENGLAND

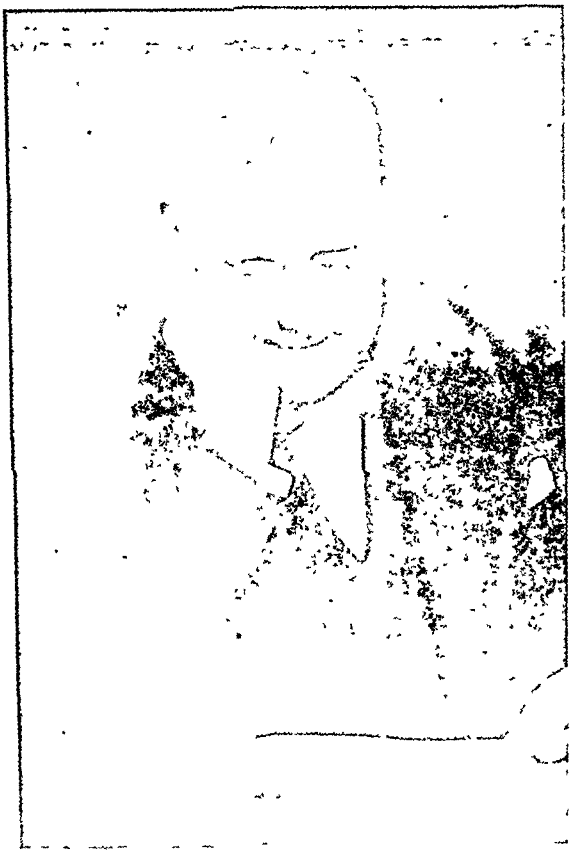
Pen Pictures of New Fellows—The following British surgeons were admitted to Fellowship in the International College of Surgeons at the meeting of the International Board of Trustees held March 4 1945



Hugh James McCurrich

Hugh James McCurrich was born in Bristol in 1890 He attended Clifton College and the University of Bristol and received his medical training at St Bartholomew's Hospital, London He later was granted M B and B S degrees by the University of London and became a fellow of the Royal College of Surgeons (England) and a member of the Royal College of Obstetrics and Gynecology After internship at St Bartholomew's Hospital he served on the staff of that hospital as house surgeon and as resident in surgery He has also worked at the Freemason's Hospital the West London Hospital, The Putney Hospital London, and the Royal Hospital, Sheffield and for a time was physician in charge of Brighton Municipal Hospital At the present time he practices entirely as a consulting surgeon and gynecologist, being honorary assistant surgeon and honorary gynecologist at the Royal Sussex County Hospital, honorary consulting surgeon at the Victoria Hospital Lewes and temporary honorary surgeon and honorary gynecologist at the Worthing General Hospital In addition to his affiliation with the Royal College of Surgeons, he is a Fellow of the Royal Society of Medicine (London), a member of the Royal College of Obstetricians and Gynaecologists and president of the Association of the Voluntary Staffs of the Major (Non teaching) Hospitals of England and Wales, and honorary secretary of the Sussex and Brighton Medicochirurgical Society He has published a dozen or so articles on abdominal surgery and bone and joint surgery in medical periodicals, and his colored film illustrating the 'Technic of Blood Transfusion" was shown at the British Medical Association Conference at Aberdeen in 1939

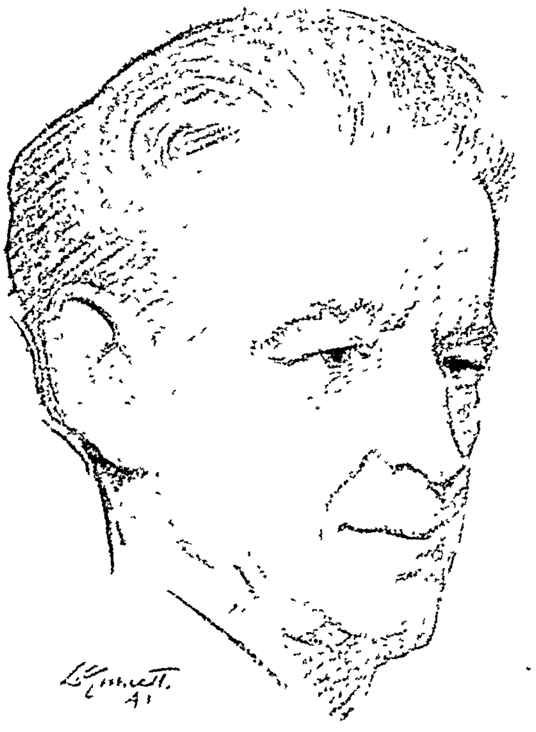
William Edward Tanner, born in London in 1889, attended the Roan School in Greenwich and the University of London and received his medical training in Guy's Hospital, London He gave a number of years of service to Guy's Hospital as intern, house surgeon and resident surgical officer, anesthetist, surgical registrar and tutor. He has been surgeon for the Prince of Wales Hospital and the Evelina Hospital for Children for more than twenty years and consulting surgeon for the London County Council Hospital and several other hospitals. As a teacher, he has been lecturer in surgery for the Northeast London Post-Graduate College and for the Fellowship of Medicine.



William E. Tanner

He was a captain in the Royal Army Medical Corps, acting as surgical specialist, in the World War of 1914 to 1918. His organizational affiliations are noteworthy. He is a fellow of the Association of Surgeons of Great Britain and Ireland, fellow and honorary editor of the Medical Society of London, fellow and past president of the Hunterian Society, fellow and chairman of the Executive Council and Finance Committee of the Royal Institute of Public Health and Hygiene, member of the Harveian Society, fellow and member of the Council of the Surgical Section of the Royal Society of Medicine, and fellow of the Royal College of Surgeons. About twenty articles by Mr. Tanner on various surgical subjects have appeared in medical journals of Great Britain in the past thirty years.

Kenneth Macfarlane Walker, born in 1883 and educated at the Leys School, Cambridge, England, graduated at Cambridge University in 1904. His medical education was obtained at St. Bartholomew's Hospital, London, where he became a house surgeon and eventually demonstrator of pathology. He then emigrated to Buenos Aires, Argentina, where he qualified as a physician again and practiced until the outbreak of the first World War. Returning to Europe, he became surgeon to the Duchess of Westminster's Hospital at Le Touquet, but later joined a field ambulance service. At the end of the war he became a lecturer at St. Bartholomew's Hospital and genitourinary surgeon to the Royal Northern Hospital. He



Kenneth Macfarlane Walker

has contributed largely to medical literature, particularly on the subjects of prostatic enlargement and male fertility He was Jacksonian prizeman and Hunterian professor to the Royal College of Surgeons, England

Dr John Alan East, M B, B S, F R C S, has been admitted to membership in the College Mr East is a young surgeon who has served in various surgical and teaching positions in Guy's Hospital, London He has contributed three chapters to Pye's "Surgical Handicaps," edited by Hamilton Bailey

PALESTINIAN CHAPTER

The following cablegram from Dr Felix Mandl, F I C S, Jerusalem, arrived just as the *Journal* was almost ready for the press "Chapter founded with Government's approval" Future issues will carry more details concerning this good news and the membership and activities of the Palestinian Chapter

ARGENTINIAN CHAPTER *

Dr Ernesto F Malbec, F I C S, has been appointed Professor Libre de Tecnica Chirurgica in the Facultad de Medicina de la Plata

MEXICAN CHAPTER *

Dr Manuel A Manzanilla, F I C S (Hon), International Vice President of the College, and Dr Francisco Fonseca, F I C S (Hon), Secretary of the Mexican Chapter, have been appointed by the National University of Mexico as its representatives and delegates to the Second National Congress of Cancerology of Cuba A special invitation has been extended by the University of Habana and its Faculty of Medicine

Dr Francisco Castillo Najero, F I C S *(Hon), Mexican Ambassador in the United* States of America, was appointed by the Mexican government as a member of the Mexican delegation to the Conference on Problems of War and Peace held in Mexico, and also to the one which will be held in San Francisco, Calif

Dr Fonseca has also been recently elected President of the Medical Society of the Hospital General de México and a member of the Advisory Board of that institution

Dr Darío Fernández Fierro, F I C S (Hon), Vice President of the Mexican Chapter of the International College of Surgeons, has received a special invitation to visit San José de Costa Rica on a scientific mission

Dr Gustavo Argil, F I C S (H C), has been appointed Chief of Clinical and Laboratories and of Research of the Hospital General de Mexico and elected a member of the Advisory Board of that hospital

In the garden adjoining the Estadio Nacional and the Hospital General de Mexico will be erected a pedestal topped with the figure of Joaquin Albarran, the genial Cuban urologist who was a professor in the Faculte de Paris At the laying of the first stone the Mexican Chapter of the International College of Surgeons was represented by Dr Francisco Fonseca, F I C S (Hon), Dr Rodolfo Ayala Gonzalez, F I C S, Dr Enrique Flores Espinosa, M I C S, and Dr Xavier Romo Diez, A M I C S

Dr Manuel Manzanilla, F I C S (Hon) an International Vice President of the International College of Surgeons, has been active, with Dr Francisco Graña, of Peru in making arrangements for the Fifth International Assembly of the College, to be held in Peru the second week of September 1945

PERUVIAN CHAPTER *

As announced elsewhere in this issue, the Fifth International Assembly of the International College of Surgeons is to be held in Peru Dr Francisco Graña, President of the Peruvian Chapter, has been active in planning and making this possible He is to be General Chairman for the Assembly

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* The Latin American news items appear also in the Spanish Section (page 192)

DISTRICT MEETING IN KNOXVILLE, TENN.

The Tennessee Guild of the International College of Surgeons and the Knox County Medical Society are sponsoring an important district meeting to be held in Knoxville, Tenn., Friday, June 8, 1945. Both Tennessee and Knoxville are individually honored, moreover, by the fact that the International Board of Trustees and the Executive Council of the United States Chapter have decided to meet there at the same time. The all-day scientific program will include contributions from these officers. The program as now arranged is as follows (with Dr. Herbert Acuff, F.A.C.S., F.I.C.S., President of the Knox County Medical Society, acting as general chairman and presiding):

Address of Welcome on Behalf of Knox County Medical Society
  Dr. E. R. Zemp, Chairman, House of Delegates, Tennessee Medical Association
Early Treatment of Extensive Facial Injuries
  Dr. Milton Adams, F.I.C.S., Memphis, Tenn.
Surgical Emergencies
  Dr. William Seaman Bainbridge, F.I.C.S., New York
Surgery of the Common Bile Duct
  Dr. Moses Behrend, F.A.C.S., F.I.C.S., Philadelphia
Prevention of Recurrent Ulcers After Subtotal Gastrectomy by Vagus Section
  Dr. A. A. Berg, F.I.C.S., New York
Hodgkin's Disease
  Dr. Lloyd F. Craver, F.I.C.P., New York
Conditions and Diseases Incident to the Menopause
  Dr. Gilbert Douglas, F.A.C.S., F.I.C.S., Birmingham, Ala.
Office Gynecology
  Dr. Watson B. Morris, F.A.C.S., F.I.C.S
(a) Lingual Goiter (with a film) and (b) Extrophy of the Liver
  Dr. Desiderio Roman, F.A.C.S., F.I.C.S., Philadelphia
Stenosing Tenosynovitis of the Wrist
  Dr. Custis Lee Hall, F.A.C.S., F.I.C.S., Washington, D. C.
Surgical Complications of Duodenal Ulcer
  Dr. R. L. Sanders, F.A.C.S., Memphis, Tenn.
Surgical Plagiarism: Its Etiology, Prophylaxis and Cure (slides)
  Dr. Max Thorek, F.I.C.S.
Solid Tumors of the Ovaries
  Dr. Edmund C. Hessert, F.A.C.S., F.I.C.S., Camden, N. J.

There will be a banquet at the Andrew Johnson Hotel, Friday evening, before the closing addresses.

Herbert Acuff, General Chairman of Meeting

In addition to the surgical values of the meeting, the occasion can be an opportunity for recreation, relaxation and restoration in congenial company and in restful, interesting surroundings of great beauty. For Knoxville is in the heart of the Great Smoky Mountains. The quiet, sleepy hills are interspersed with rivers, the waters of which have been controlled and put to work by the Tennessee Valley Authority. The blue lakes of the area are teeming with fish. The Great Smoky Mountain National Park has more than half a million acres of virgin hardwood forests and many types of flora.

So both to the meeting in Knoxville and to all of this we bid you welcome!

HERBERT ACUFF, F.I.C.S.
President, Knox County Medical Society

NEW BOOKS

There has been a trend in many instances to subjugate preoperative and postoperative care to, and concentrate on, technical skill in executing surgical operations. This is not comme il faut. A surgical operation is only part of the undertaking and responsibility of the conscientious surgeon. He is responsible also for proper preoperative and postoperative care.

Illingworth's Textbook of Surgical Treatment,[1] which appears in its second edition, is replete with a wealth of information. The book should be in the library of every medical student, house surgeon and mature practitioner in surgical endeavor. The nineteen contributors have enriched the opus with the best and most up to date methods. It would be useless to begin an analysis of the various highlights of the work. This reviewer attempted to jot down his impressions chapter by chapter, but he abandoned the task and concluded that the work needs no further comment than that it is a welcome and worth while addition to the surgeon's armamentarium for refreshing and replenishing his knowledge and efficiency.

A long felt need has been met in *Margaret Moore White's* little volume on *The Symptomatic Diagnosis and Treatment of Gynaecological Disorders*.[2] There are many excellent gynecologic textbooks, but this volume is especially designed to meet the requirements of the general practitioner, for, besides being a clinical textbook, it describes fully common symptoms and their treatment. Many minor complaints, such as pain, backache, leukorrhea and functional menstrual disturbances from which the patient may suffer may frequently be relieved by the application of simple measures in the doctor's consulting room with a minimum amount of apparatus. Causes as well as treatment of these disorders are fully described. In addition, a chapter has been added on preoperative and postoperative treatment and complications, since in many instances the general practitioner must care for his patients before and after the operation is performed by the visiting surgeon. A chapter on contraception has been contributed by Mary Redding and one on radiation therapy in gynecology by I. G. Williams. A complete list of endocrine products and solutions for douches is given in the appendix. The book is highly recommended.

In *Control of Pain in Childbirth*,[3] *Lull* and *Hingson* enthusiastically record their efforts to coordinate and correlate the medical knowledge of obstetric analgesia and anesthesia discovered and developed for the control of pain in childbirth.

They state in their preface that their purpose is fourfold: (1) correlation of the pharmacologic action of the various drugs on maternal and on fetal organ structures, (2) reevaluation of indicated and contraindicated drug combinations in cases with known maternal or fetal abnormality or disease, (3) selection of the method of relief of pain best suited to the mother's physical and emotional status, and (4) perfection and simplification of technic through full utilization of the allied basic medical sciences to the end that the greatest possible maternal and fetal welfare may be attained.

The authors point out that there is no form of relief of pain adaptable to every case. They attack the problem from two angles: relief of pain by the encephalic approach, that is, by obliteration of pain at its site of interpretation, and by the anatomic approach, through obliteration of painful stimuli at the site of origin. A complete review of drugs used in control of pain in childbirth is given, as well as of the pharmacologic action, dosage and method of use of each.

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[1] Textbook of Surgical Treatment. C. F. W. Illingworth. Williams and Wilkins Co., Baltimore, 1944. Price $9.

[2] The Symptomatic Diagnosis and Treatment of Gynaecological Disorders. Margaret Moore White. H. K. Lewis & Co., Ltd., London, 1944. Price 16s.

[3] Control of Pain in Childbirth. Clifford B. Lull and Robert A. Hingson. J. B. Lippincott Co., Philadelphia, 1944. Price $7.50.

It must be stated that the authors are overenthusiastic in their presentation of almost all forms of obstetric analgesia and anesthesia. The chapter on twilight sleep, for instance, merely mentions the frequent birth of blue babies. There is still much to be said against wholesale application of drugs to control pain in childbirth.

In the chapter on control of pain in maternal complications, such topics as infections of the respiratory tract, cardiac disease, toxemias of pregnancy, blood dyscrasias, diseases of the urogenital tract, infections, diseases of the nervous system, breech presentation, metabolic diseases, surgical complications of pregnancy, abortion and premature labor are reviewed. Of equal interest is the chapter on methods and drugs used in resuscitation of the newborn.

An appendix in which several analgesic charts are reproduced and an unusually fine index conclude the book, which will be of interest to the obstetrician and general practitioner alike. In completeness of subject matter this book has no rival. It is authoritative and truly worth while.

The material content of the new volume by *Ligeros* entitled *How Ancient Healing Governs Modern Therapeutics*[4] is ample evidence of the author's study and research to assemble the multitude of facts enumerated. It represents a factual presentation of interest to those with a penchant for medical history. The underlying theme is a passionate and eloquent plea that due credit be given the ancient Greeks for their enormous contribution to modern medical knowledge. The cause is laudable. The quotations derived from a multitude of sources, many absolutely original, are worthy of very favorable mention, as are the profuse illustrations.

The publishers of the collection of masterly addresses by *John Chalmers Da Costa* which appears under the title *The Trials and Triumphs of the Surgeon*[5] have themselves achieved a triumph in assembling this meritorious group of essays. Dr. Da Costa, who was Samuel Gross Professor of Surgery of the Jefferson Medical College of Philadelphia from 1910 to 1930, has been outstanding as a teacher, author and philosopher. His speeches and articles, heretofore unpublished in book form, reveal his vast storehouse of knowledge, the thoroughness with which he absorbed the many fields of literature through which he ranged, and a clearcut, limpid prose style. The observations on medical ethics stamp Dr. Da Costa as one of the finest disciples of Aesculapius in this respect. The portrayal of John Johnson is outstanding as a character sketch. The collection of fifty-four aphorisms cited at the close of the chapter on "The Trials and Triumphs of a Surgeon" are the crystallization of truth garnered during thirty years as a member of the medical profession and may well be thoroughly studied and taken to heart by the young medico about to enter upon a surgical career. Other essays are equally outstanding. This stimulating volume is highly recommended to surgeon and layman alike.

Notes on Nursing[6] by *Sarah Corry* is warmly recommended to all members of the nursing profession. It contains valuable hints to the newly graduated nurse, to the nurse who has been out of practice for a time, and to the one who finds herself far from modern hospital equipment or who is transferred from one specialized field of nursing to another. She is told what to do in various emergencies which arise in everyday life, as well as the importance of keeping up with uses of modern drugs, such as penicillin. A number of pages are devoted to postoperative care, nursery technic and the proper methods of applying sponges, catheterization, hot and cold packs, colonic irrigations, etc. The nurse who has no hobby is advised to get one immediately, "to balance the weight of daily exposure to life's sorrows."

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[4] How Ancient Healing Governs Modern Therapeutics. K. Ligeros. G. P. Putnam's Sons, New York, 1937. Price $10.00.

[5] The Trials and Triumphs of a Surgeon. Dr. John Chalmers Da Costa. Edited by Dr. Frederick H. Keller. Dorrance & Co., New York, 1944.

[6] Notes on Nursing, by a Nurse. Sarah Corry, R.N. D. Appleton-Century Company, New York, 1944.

The book concludes with valuable hints on religious practices with which the nurse must be fitted to cope in the presence of birth and death The format is convenient, the book can be carried in the pocket or bag The volume is both readable and up to date

The prominence of *Morris Fishbein* in the medical literary world assures a successful undertaking This is evident in his most recent contribution on the *Medical Uses of Soap*[7] As editor of this work, he has garnered ten outstanding men, each a specialist in a given field, as contributors and has presented a volume which is informative, timely and useful The claptrap of the radio about the best creams for shaving and the heraldry and noise about the virtues of particular soaps blaring over the loud speakers in every hamlet and in every mansion are often taken at face value by the uninitiated Some persons seek authoritative information and guidance from their physicians Thus suddenly interrogated, the latter are often stumped, for no one in any profession can be informed on all subjects and encyclopedic A multitude of questions are put to medical men by the radio and press–inspired soap enthusiasts This comprehensive volume will answer all these questions Besides the practical value and scientific structure of the work, the presentation is in readable form and succinct Not only may it be recommended to members of the medical profession, but the physician may well recommend it to his lay questioner As for editorial exactitude, style and thoroughness, with Dr Fishbein as editor and Lippincott's as publisher, one is assured of authoritative information and the acme in publication effort

Nicholas Senn admonished his students repeatedly that "No one can aspire to be a good surgeon who is not a good physician " *Kracke's* work *Diseases of the Blood*[8] falls in line with this admonition for a good surgeon should be conversant with the principles, at least, of hematology In this volume, which appears in its second edition, the reader will find much information The work was revised after four years and has appeared in Spanish and Portuguese editions It has been considerably augmented One of the modern additions is presented in "A Clinical Significance of the Rh Factor with Comments Concerning the Laboratory Problem " Such advanced subjects as "fractionation of liver extract," hemolytic anemias, the newer concepts of hemoglobinuria and the action of drugs on the blood stamp this volume as one of the outstanding works on the subject

The general surgeon will delight in the excellent sections on blood transfusion, the operation of a blood bank and the use of blood plasma Dr R P Custer has contributed a chapter on the recent work on bone marrow Many other important chapters, too numerous to mention, help to produce a well rounded work on diseases of the blood The bibliography is excellent Frances Baker deserves much credit for the creation of the colored plates For the student and as a reference book for all in the practice of medicine this book is a "must" if one wishes to keep abreast of the sweeping advances of modern medicine

Arthur Hertzler, the author of *Ventures in Science of a Country Surgeon*[9] has carved an enviable niche in the annals of surgical and human endeavor Both his thorough training in pathology and as a surgeon and his wide experience make his writings authoritative While some in speaking of Dr Hertzler point to him affectionately as the "horse and buggy doctor," it is a far cry from the Hertzler of the days of the horse and buggy to the Hertzler of the streamlined age This reviewer had the pleasure of exchanging thoughts and breaking bread with Arthur E Hertzler He represents the proverbial diamond in the rough His storehouse of accumulated didactic and practical knowledge seems inexhaustible I well recall the only request he had to make when he was my guest at dinner The admonition ran as follows "I am allergic to fuss I don't want to ride in taxi cabs Please just let me come and go as I please, and let me eat what I like " A rather difficult order to fill, but it was a delight to comply with his recipe in full. The meeting was worth it. Space does not permit an exhaustive analysis of this present opus of this rugged representative of honest surgical endeavor. The book is distinctly worth reading. It is a tonic.

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[7] Medical Uses of Soap Morris Fishbein J B Lippincott Philadelphia 1945 Price $3

[8] Diseases of the Blood Roy R Kracke Ed 2 J B Lippincott Co, Philadelphia, 1941 Price $15

[9] Ventures in Science of a Country Surgeon Arthur E Hertzler Published by the author, Halsted, Kansas, 1944

The *Management of Neurosyphilis*[10] is the outgrowth of a previous volume, published in 1933, by *Bernhard Dattner*, then an assistant in the clinic of Wagner-Jauregg. It is based on his lectures to the postgraduate students of Vienna for more than twenty years. Since 1938 Dattner has continued his work at the Bellevue Hospital of New York, and thus this monographic study represents his combined experience in the management of neurosyphilis in the Old and the New World.

This book is an excellent guide not only for the specialist but also for the general practitioner, who may at times be called to treat this complex and protean disease. Modern methods and their indications and limitations in the treatment of various forms of neurosyphilis of the central nervous system are described and evaluated, and the author's personal views and the viewpoints of other workers are presented and examined. Dattner emphasizes the importance of thorough and repeated examinations of the spinal fluid and correct interpretation of changes occurring in it in neurosyphilis as a guide in the diagnosis and treatment of this disease and evaluation of the final results. The author regards humoral findings as a truer indication of the existing pathologic syndrome than the criteria based on the clinical status of the patient. The spinal fluid syndrome is a mirror image of pathologic-anatomic processes, and there is no definite parallelism between humoral changes and clinical status of the patient.

Dattner, following Wagner-Jauregg, still recommends fever therapy. He maintains that the newer methods of artificially inducing hyperpyrexia by physical modalities are not superior and cannot be considered substitutes for malaria therapy. It is his practice at Bellevue Hospital to use artificial fever only when malaria does not "take" or fails, thus reversing the procedure of many competent American clinicians. It is pointed out, however, that the selection of a method of inducing fever does not always rest on its proved superiority but is often decided by extraneous circumstances.

In the chapters on specific drugs used in the treatment of neurosyphilis, the author discusses the manifold preparations on the market and evaluates them in the light of his own experience, mentioning many combinations of arsphenamines and heavy metals in vogue in the Continental clinics, but less known in the United States. Dattner regards arsenicals and nonspecific forms as the mainstays in neurosyphilitic therapy and bismuth only as an accessory or an adjuvant. He recommends a wider use of mercurial drugs for treatment-resistant neurosyphilis, especially for the early manifestations of meningovascular forms.

An extensive and well authenticated bibliography of global literature makes this a particularly valuable contribution to the management of neurosyphilis.

The *Essentials of Oral Surgery*[11] appears now in its third edition. This new opus is augmented by sections on shock, hemorrhage, burns and wounds, as well as on the newer methods of treatment. The collaboration with *Vilray Blair* of *James Barrett Brown* and *V. H. Kazajian* has done much to enrich its contents. Student and practitioner will benefit from this work because it conforms closely to the contents of the course in oral surgery recommended by the Curriculum Committee of the American Association of Dental Schools. Illustrations are numerous, but the reproduction leaves much to be desired.

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[10] The Management of Neurosyphilis. Bernhard Dattner. Grune & Stratton, New York, 1944. Price $5.50.

[11] Essentials of Oral Surgery. Vilray Blair, Robert Ivy and James Brown. Ed. 3. C. V. Mosby Co., St. Louis, 1944. Price [illegible]

Sección Española

Editores Asociados de la Sección Español

Prof Dr. Francisco Graña, F.I C S.
Lima, Peru

Prof Dr Herman de las Casas, F I C S
Caracas, Venezuela

Prof Dr Manuel A Manzanilla, F I C S
México, D F

Que Es La Sección Española?

CON esta edicion, la seccion especial de la Revista está inaugurada. Es en verdad un modesto principio; con tres articulos originales y algunas noticias.

Estamos seguros que con la promocion de tres capaces editores asociados, qué han sido nonbrados muy recientemente para recibir contribuciones para publicarlas en esta edicion, la seccion indudablemente debera acrecentar y formar una importante parte de la Revista.

Asi que pasa el tiempo, la seccion incluirá no solamente escritos originales y cientificos por autores Latino-Americanos, pero tambien revistas de libros, editoriales y noticias de merito chirurgico y de importancia en las America-Latinas, y de actividades enter los miembros de los Capitulos Latino-Americanos del Colegio Internacional que seran colectadas por nuestros tres editores asociados.

Esta edicion es precursora de semejantes secciones en frances, ruso, italiano y en otros idiomas que serán establecidas tan pronto como la circumstancias del mundo actual lo permitan recibir con regularidad de Europa y de otros paises el material necesario. Tal suceso no estará distante! En meses recien pasados, el servicio de correo ha sido restablecido entre Francia y los Estados Unidos é intercambio es posible y practicable una vez con revistas francesas.

Hace poco se recibio en la oficina editorial, solicitud para restablecimiento de relaciones con Sweden. Se ha recibido una Revista de Rumania, la primera en mucho tiempo. Mucho promete el conocimiento que trabajos cientificos están en progreso en Europa y que muchos de los sobresalientes que recordamos en dias antes de la guerra aun continuan su actividad.

Tambien entusiasma saber que aquellos en paises ultimamente accesibles se muestran anciosos por relaciones cientificas y cooperacion y miran hacia las Americas, que están en posecion de mayores recursos y seguridad para ir a la cabeza.

Una carta particular para el editor, de mano de un cirujano Chino, recibida en estos momentos, dice que el Capitulo Chino está activo. La organizacion del Capitulo de Palestina se anuncia en este numero de la Revista. Correspondencia reciente con librerias en Palestina indican que tambien alli tienen ardiente deseo de cooperacion con nosotros del oeste.

La seccion española, es más aún qué un número de paginas escritas en español. Es en verdad un paso significante en la organizacion de la Revista del Colegio Internacional de Cirujanos, que lo constituye representante del progreso universal de la cirugia.

NOTICIAS Y ANUNCIAS

CAPÍTULO ARGENTINIANO

Dr. Ernesto F. Malbec, de Buenos Aires, ha sido nombrado Profesor Libre de Tecnica Chirurgica en el Facultad de Medicina de la Plata.

CAPÍTULO PERUVIANO

Como se anuncia en este mismo número de la Revista, la Quinta Asamblea Internacional del Colegio Internacional de Cirujanos tendrá lugar en Lima, Perú. El Doctor Francisco Graña, Presidente del Capitulo del Perú y Vice Presidente del Colegio Internacional, ha tomado la iniciativa para llevar á éxito esta Asamblea. El Doctor Graña será Presidente General de la Asamblea.

CAPÍTULO MEXICANO

En el jardín vecino al Estadio Nacional y al Hospital General de México, se levantará un pedestal rematado con la figura de Joaquín Albarrán, el genial urólogo cubano que fué catedrático de la Facultad de París. Durante la colocación de la primera piedra, el Capítulo Mexicano del Colegio Internacional de Cirujanos estuvo representado por Dr Francisco Fonseca, F.I.C.S. (Hon.); Dr Rodolfo Ayala González, F.I.C.S.; Dr. Enrique Flores Espinosa, M.I.C.S., y Dr. Xavier Romo Díez, A.M.I.C.S.

La Universidad Nacional de México ha designado sus representantes y delegados ante el Segundo Congreso Nacional de Cancerología de Cuba, a los señores profesores de la Facultad de Medicina, Dr. Manuel A. Manzanilla, F.I.C.S. (Hon.), y Dr. Francisco Fonseca, F.I.C.S. (Hon.), invitados especialmente para dicho evento por conducto de la Universidad de la Habana y su Facultad de Medicina. El Profesor Manzanilla es Vicepresidente Internacional del Colegio, y el Profesor Fonseca es Secretario Nacional del Capítulo Mexicano.

El Dr. Francisco Castillo Nájera, F.I.C.S. (Hon.), Embajador de México en los Estados Unidos de América, fué designado por el Gobierno Mexicano miembro de la Delegación Mexicana a la Conferencia sobre Problemas de la Guerra y la Paz efectuada en México, así como a la que tendrá lugar en San Francisco, California.

El Dr. Castillo Nájera representó también a México en la Junta México-Estados Unidos de Estados Mayores.

El Dr. Francisco Fonseca, F.I.C.S. (Hon.), Secretario Nacional del Capítulo Mexicano del Colegio, fué elegido recientemente Presidente de la Sociedad Médica del Hospital General de México y miembro del Consejo Consultivo del propio Hospital.

El Dr. Darío Fernández Fierro, F.I.C.S. (Hon.), Vicepresidente Nacional del Capítulo Mexicano del Colegio, ha recibido invitación oficial para visitar San José de Costa Rica en misión científica.

(Continuado en página 195)

Tratamiento Quirúrgico del Cancer de la Mama*

(Surgical Treatment of Carcinoma of the Breast)

A. H. ROFFO, M.D., F.I.C.S., y A. EMANUEL, M.D.
BUENOS AIRES, ARGENTINA

SUMMARY

The author classifies carcinoma of the breast as operable and inoperable, according to the degree of the lesion, the patient's age, and other conditions. The inoperable cases are treated with X-rays—2,500 to 3,000 r, according to Coutard's technic. The ulcerated cases are treated with electro-coagulation and electrosurgery. In the operable cases radical mastectomy is the procedure, followed by radium therapy.

LAS enfermas afectadas de cáncer de seno, de acuerdo a un plan trazado por la Dirección del Instituto de Medicina Experimental desde su funcionamiento son tratadas según el estado en que se presentan. De acuerdo con esto las enfermas son catalogadas en operables e inoperables.

Son factores contrarios a la intervención:

1. La edad de la enferma, y más que la edad, el mal estado general.

2. Enfermedades concomitantes: diabetes, nefritis, arterioesclerosis, hipertensión arterial, tuberculosis, insuficiencia hepática.

3. Invasión ganglionar muy acentuada y sobre todo cuando están tomados los ganglios supraclaviculares.

4. Las metástasis a distancia confirmadas *por la radiología*.

Los cánceres ulcerados, aún cuando no son quirúrgicos en el sentido estricto de la palabra, son, sin embargo, *susceptibles de ser tratados quirúrgicamente* por medio de eléctro-coagulación con radiobisturí y completada con radioterapia. Este electro-toilette mejora evidentemente por un tiempo el estado general de las enfermas.

Las enfermas inoperables son sometidas a la acción de los Rayos X y cuando, por lo avanzado del proceso no es posible esperar nada de la radioterapia, se las somete a un tratamiento médico.

Para las enfermas que deben tratarse solamente con rayos se usan, corrientemente, los aparatos de 200.000 voltios, o bien los de alta tensión de 400 a 600.000 voltios.

Las dosis varían según el caso, oscilando entre 2.500 y 3.000 r, empleándose, la mayor parte de las veces, la técnica de las dosis fraccionadas de Coutard.

En los cánceres ulcerados se indica la próximo-radioterapia.

El tratamiento médico, cuando las enfermas no son irradiadas, es generalmente sintomático a base de tónicos o extractos hepáticos cuando hay anemia, y de analgésicos cuando hay dolores, y algunos ensayos de quimioterapia.

Se consideran operables las enfermas que, además de un buen estado general, no tienen ninguna de las contraindicaciones citadas anteriormente.

Los ganglios axilares, siempre que no sean muy numerosos, *grandes o adheri-*

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* Presentado en la Tercera Asamblea Internacional del Colegio, 1941

dos a dermis o a planos profundos. no son una contraindicación.

Antes de resolver el tratamiento quirúrgico, se debe pensar siempre en la posibilidad de metástasis a distancia, en su comienzo, la que da muy pocos síntomas.

De ninguna manera es resuelta definitivamente la intervención, sin hacer previamente algunos análisis de laboratorio: urea en suero, glicemia, orina y si es necesario tiempo de coagulación y de sangría.

Resuelta la intervención las enfermas son previamente irradiadas.

Esta radioterapia previa consiste en irradiaciones de 580 r cada una en tres campos: uno mamario, uno axilar y otro supraclavicular, las que se hacen en dos días.

A los 20 días de su última aplicación la enferma es nuevamente revisada.

En un buen número de casos hemos observado desaparición definitiva de tumores, que de no haber sido irradiados hubieran sido tratados quirúrgicamente.

En otros casos se observa que la gran mejoría obtenida con esta irradiación permite seguir el tratamiento con radioterapia fracción nada.

En cuanto a la anestesia se le da preferencia a la regional con lo que el postoperatorio es excelente y las complicaciones se reducen al mínimo.

No siendo posible esta anestesia por cualquier razón de orden clínico, se opera utilizando la anestesia de gases, y de ellos se prefiere el protaxido de nitrogeno por ser el único no inflamable usando el radio bisturí, o bien el éter suministrado ya con el clásico Ombregdane o con el mismo aparato de gases.

La anestesia regional con novocaína al 0.50 por ciento la efectuamos de la siguiente manera: inyección paravertebral de los intercostalas 2° a 9° inclusive, infiltrando el nervio cuando este corre entre dos costillas, es decir por dentro del ángulo posterior de las mismas.

Para suprimir la sensibilidad que dan a la región mamaria las ramas supraclavicular y supraesternal del plexo cervical superficial se debe inyectar de 20 a 30 c.c. de solución en el tejido celular cutáneo a lo largo de las clavícula de extremo a extremo.

Dado lo extenso de la región conviene infiltrar el perímetro de la incisión un poco por fuera de la misma llegando por el lado externo a la línea axilar, por debajo más o menos siguiendo la primera costilla y por el lado interno el borde del esternón.

La intervención se efectúa siempre utilizando el radiobisturí, usando el borde de corte para epidermis y dermis, el de coagulación para el resto es decir tejido celular subcutáneo, grasa, músculos y pedículos.

La cicatrización es algo más lenta que con el bisturí común, pero en general a los 15 días a cicatrizado.

La operación consiste en amputación de la mama, extirpación de ambos pectorales y vaciamiento axilar. La piel se cierra con crin y agrafes. Se coloca un tubo de goma en la axila que se deja de 8 a 10 días, en las delgadas menos.

A los dos meses de la irradiación previa, si la enferma ha sido dada de alta se la cita para ser irradiada nuevamente en la misma forma que se hizo anteriormente, es decir 580 r por campo con lo cual se termina el tratamiento.

Las cifras que arrojan las enfermas así tratadas con 5 años de curabilidad representan el 35,50 por ciento de las operadas.

LOS DISTINTOS TRATAMIENTOS EFECTUADOS EN EL INSTITUTO DURANTE LOS AÑOS 1937, 1938 Y 1939 SE DISTRIBUYEN EN LA SIGUIENTE FORMA

	Años			
	1937	1938	1939	Totales
Radioterapia solamente	202	188	238	628
Radioterapia cirugía	96	101	99	296
Cirugía solamente	5	5	8	18
Quimioterapia	15	19	9	43

RELACION POR CIEN DE LOS TRATAMIENTOS EFECTUADOS

Radioterapia solamente	64,01
Radioterapia y cirugía	30,17
Cirugía solamente	1,88
Quimioterapia	4,34

LOS RESULTADOS DEL TRATAMIENTO ELÉCTRO-QUIRÚRGICO SE RESUMEN

	Años			
Evolución de la enferma	1937	1938	1939	Totales
Continuan en tratamiento	85	105	111	301
Mejoradas	50	62	49	161
Estacionarias	62	52	99	213
Empeoradas	93	29	36	158
Se ignoran o fallecidas	69	43	59	171

El total de curaciones y supervivencia de las enfermas intervenidas desde 6 años atrás sobre 1 732 enfermas con cáncer de mama de las cuales se operaron 1088 es el siguiente

ESTADO DE LAS ENFERMAS SEGÚN LOS AÑOS DE EVOLUCION

Años de curación	Número de enfermas
Más de 5 años	106
Más de 4 anos	159
Más de 3 anos	290
Más de 2 anos	248
Más de 1 año	295

CONSIDERANDO EN SUS RESPECTIVOS PORCENTAJES SE OBTIENE LA SIGUIENTE RELACION

	Por ciento
Más de 5 anos	36,50
Más de 4 anos	45,04
Más de 3 años	79,20
Más de 2 anos	73,10
Más de 1 ano	77,41

SUMARIO

Los cánceres de la mama son clasificados en operables y no operables Los cánceres ulcerados son tratados por electrocoagulación y radioterapia Los cánceres inoperables son tratados por Rayos X entre 2,500 y 3,000 r siguiendo la técnica de Coutard Los cánceres operables son tratados con mastectomía radical previamente irradiados

RÉSUMÉ

L'auteur classifie les carcinomes du sein en opérables et inopérables, d'après l'étendue des néoplasmes, l'âge de la malade et aussi d'après d'autres conditions Les cas inopérables sont soumis aux rayons X—2,500 a 3,000 r, d'après la technique de Coutard Les cas ulcérés sont traités par l'électro coagulation et la chirurgie électrique Dans les cas opérables, la mastectomie radicale sera pratiquée Comme traitemente supplementaire, on emploiera le radium

Выводы

На основании степени поражения, возраста больного и других условий автор разделяет рак грудной железы на операционный и неоперационный Неоперационный рак лечится рэнтгенотерапией, 2 500 r до 3 000 r согласно способу Courtard'a Язвенные опухоли лечатся электро коагуляцией и электро хирургией Для операционного рака рекомендуется радикальная мастэктомия и затем рэнтгено терапия

NOTICIAS

(Continuado de página 192)

El Dr Gustavo Argil, F I C S (H C), ha sido designado Jefe de los Laboratorios Clínicos y de Investigación del Hospital General de Mexico y elegido miembro del Consejo Consultivo del propio Hospital

El Dr Manuel A Manzanilla, Vice Presidente del Colegio Internacional de Cirujanos, ha estado activando en colaboracion con el Dr Francisco Graña del Peru, arreglando para la Quinta Asamblea del Colegio Internacional de Cirujanos que tendra lugar en Lima, Perú, la segunda semana de setiembre 1945

Vitamin K en Cirugia*

(Vitamin K and Surgery)

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SUMMARY

The authors studied 76 patients with hepatobiliary disease. Of 64 with lithiasis, 70 per cent had had a normal or subnormal prothrombin time, and 30 per cent had an abnormally low value. In 70 per cent of the patients treatment without vitamin K modified the prothrombin time. There was no relation between the prothrombin time and the result of the hippuric acid test. Hemoconcentration did not influence the prothrombin time. There was no relation between the prothrombin time and bilirubinemia.

DESCUBIERTA la Vitamina K, su rol fundamental en la constitución de la protrombina y la repercusión de la insuficiencia hepática sobre su metabolismo, rápidamente se extendió su empleo en el tratamiento de las hemorragias colémicas y de las hemorragias de los recien nacidos. Los investigadores se dedicaron después a la solución de numerosos problemas relacionados con ella. Conocida es la frecuencia del déficit hepático en la litiasis biliar y en la colecistitis crónica y la necesidad de corregirlo en el preoperatoria ¿ Hasta dónde este descubrimiento terapéutico era aplicable en la preparación quirúrrgica de nuestros enfermos?

Estadísticas contradictorias sobre la protrombinemia y su modificación por la vitamina K, en los litiásicos biliares han sido publicadas en estos dos últimos años. Algunos encuentran acentuados descensos de la protrombinemia y dicen que el acto operatorio acentua peligrosamente tal desequilibrio. Recomiendan el *empleo casi sistemático de la vitamina K* en todo litiásico biliar que deba ser intervenido.

El *año 1940 nosotros efectuamos* un trabajo de investigación clínica y experimental. Nos propusimos establecer la frecuencia e intensidad de la hipoprotrombinemia preoperatoria en los litiásicos o ictéricos por obstrucción o compresión de las vías biliares internados en el Servicio del Prof. Allende. Investigamos también las variaciones determinadas por el acto operatorio y el tratamiento previo y posterior a la intervención quirúrgica. Por último efectuamos el cotejo de la protrombinemia, prueba del ácido hipúrico, polipeptidemia y uremia postoperatoria. Procuramos apreciar así el estado del hígado en los enfermos con tiempos de protrombina prolongados y la importancia de esto en el pronóstico.

Estudiamos 76 enfermos. El esquema 1 resume su distribución de acuerdo al diagnóstico operatorio.

(a) Protrombinemia preoperatoria. Las determinaciones se hicieron siguiendo la técnica de Quick. Cada resultado fué controlado y se extremó el cuidado en la elección de los reactivos. Los tiempos de protrombina fueron reducidos a por ciento de protrombinemia siguiendo las curvas halladas por Sanguinetti A. y Nuñez C. J. (1) cuya exactitud comprobamos practicando diluciones de plasma con solución fisiológica. Se recogió material en ayunas. Sin embargo, la lipemia provocada por un desayuno rico en grasa no modificó substancialmente los resultados Para comprobarlo elegimos 9 enfermos jóvenes, internados por hernia o apendicitis crónica y sin pasado patológico de importancia Después de obtener material para examen se les hizo comer 150 gramos de carne, un huevo frito, 50 gramos de pan y 100 gramos de manteca Tres horas después se extrajo nuevamente sangre El plasma lactescente, repleto de hemoconias contrastaba con el límpido de la sangre extraída en ayunas A continuación resumimos los resultados

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* Presentado en la Tercera Asamblea Internacional del Colegio, 1941.

TABLA I

CASOS	EN AYUNAS	DESPUÉS DEL DESAYUNO
1	T P 17"	T P 17"
2	T P 20	T P 18½
3	T P 22	T P 20
4	T P 20	T P 23
5	T P 17	T P 17
6	T P 20	T P 16
7	T P 18	T P 16
8	T P 22	T P 20
9	T P 18	T P 15

Los 64 enfermos de litiasis biliar, de acuerdo a los valores de protrombinemia se distribuyeron así

Observamos (a) Mientras que el 63,6 por ciento de las litiasis vesiculares pertenecían al grupo 1, el 61,11 por ciento de las litiasis coledocianas al grupo III

(b) De los 64 casos el 50 por ciento (32 enfermos 4 litiasis de colédoco y 28 litiasis vesiculares) correspondieron al grupo I

(c) De los 64 enfermos el 20 por ciento (13 casos 3 litiasis del colédoco y 10 litiasis vesiculares formaban el grupo II

(d) De los 64 litiásicos el 30 por ciento (17 enfermos 6 vesiculares y 11 coledocianos) integraron el grupo III

Resumiendo El 70 por ciento eran normales o acusaban discreta disminución de P, solo el 30 por ciento, formado este grupo como era de prever por ictéricos coledocianos, acusaban valores muy bajos

(b) Influencia del tratamiento preoperatorio sobre P (protrombinemia)

Del tratamiento preoperatorio fué excluída la vitamina K sólamente a los ictéricos graves y a un enfermo de fístula biliar, después de comprobar la persistencia de la hipoprotrombinemia, se administró antes de la operación vitamina K sintética Las cifras consignadas a continuación reflejan la acción del reposo, dieta y sondaje duodenal

TABLA II

CASO NO	AL INGRESAR	DESPUES DEL TRATAMIENTO PREOPERATORIO SIN VITAMINA K
28 (Lit Col)	P 50%	P 100%
35 (Lit Ves)	P 45	P 50
38 (Lit Ves)	P 50	P 65
47 (Lit. Col)	P 40	P 50
51 (Col cron)	P 50	P 100
59 (Lit Col)	P 35	P 50
64 (Lit Col)	P 28	P 50
66 (Lit Col)	P 40	P 50
67 (Lit Col)	P 60	P 100

TABLA III

CASO NO	AL INGRESAR	DESPUES DEL TRATAMIENTO PREOPERATORIO SIN VITAMINA K
31 (Neo V B)	P 60%	P 40%
34 (Lit Col)	P 44	P 22
40 (Lit Col)	P 60	P 47
53 (Lit Col)	P 24	P 20
56 (Col cron)	P 30	P 28
68 (Lit Ves)	P 47	P 45

De 15 casos que presentaban T P prolongados al ingresar, 9 mejoraron la P sin recibir vitamina K y 6 la empeoraron, siendo las oscilaciones poco acentuadas en la mayoría de ellos 8 enfermos caían dentro del grupo III (P 20 por ciento al 45 por ciento); 5 mejoraron con reposo y dieta, si bien la corrección del déficit fué discreta En algunos de estos pacientes la vitamina K administrada más tarde normalizó los valores —7 enfermos pertenecían al grupo II (P 45 por ciento al 70 por ciento), 3 elevaron espontáneamente su P al 100

Esquema 1 Distribucion de los 76 enfermos de acuerdo al diagnostico operatorio

Esquema 2 En blanco litiasis coledocianas (18 casos), En negro litiasis vesiculares I P—70 por ciento a 100 por ciento, II P—45 por ciento a 70 por ciento, III P—20 por ciento a 45 por ciento por ciento; 1 se aproximó a cifras fisiológicas; 1 no la modificó y en dos disminuyó ligeramente. Todos respondieron bien a la vitamina K.

En síntesis pensamos: Que el tratamiento médico o modifica por sí mismo y favorablemente los valores de P. o coloca al hígado en condiciones favorables para metabolizar la vitamina K.

(c) Influencia de la operación sobre P.

Consideraremos: 1° el tipo de anestesia empleada; y 2° la intensidad del traumatismo producido.

1° TIPO DE ANESTESIA EMPLEADA

N° 40 CASOS

Anestesia local	31 casos
" " y eter	3 "
" " y protóxido	2 "
Ciclopropano	3 "
Protóxido de N.	1 "

2° OPERACIÓN

Colecistectomía o mucoclasia en las litiasis vesiculares; coledocotomía en las coledocianas; drenaje biliar en los ictéricos. Traumatismo variable según las dificultades presentadas por el enfermo y la experiencia técnica del cirujano. Hubo operaciones que duraron 150 minutos y que dieron hemorragias de alguna consideración.

Resultados:

(1) Carecieron de influencia demostrable sobre P. el tipo de anestésico y el grado de traumatismo operatorio.

(2) Después de la operación, en el 60 por ciento y dentro de las 24 horas, P. o mejoró o no varió.

(3) En el 40 por ciento P. disminuyó ligeramente, manteniéndose en el 25 por ciento de estos dentro de límites normales.

(4) No es posible preveer por T. P. preoperatorio ni el sentido ni la intensidad de su modificación postoperatoria.

(d) Relación de P. y de la prueba del ácido hipúrico.

Lo estudiamos en 25 enfermos. Estos fueron clasificados siguiendo el criterio de Probstein y Sol Londe en: a) insuficiencias severas (12 casos); b) insuficiencia relativa (4 casos); y c) normales (9 casos).

Los valores de P. fueron para cada uno de esos grupos:

a) Insuficiencia severa (48 por ciento)—P normal 66,7 por ciento; P disminuída 33,3 por ciento

b) Insuficiencia relativa (16 por ciento)—P normal 66,7 por ciento; P disminuída 33,3 por ciento

c) Normal (36 por ciento)—P normal 71, 8 por ciento; P disminuída 22,2 por ciento

Fué excluído en todos estos enfermos el factor renal. En los 3 grupos encontramos una coincidencia de valores realmente sugestiva. Aun en aquellos casos con insuficiencia grave de eliminación del ácido hipúrico la protrombinemia fué normal en el 66,7 por ciento.

(e) El T. P., la hemoconcentración, la uremia y la polipeptidemia postoperatoria, 6 enfermos fueron estudiados con el propósito de establecer la relación de P. con las cifras del hematocrito, de la polipeptidemia y uremia postoperatorias. La tabla IV contiene los resultados de esta investigación.

TABLA IV

CASO NO.	FECHA	HEMATOCRITO	T. DE P.	UREA %°	POLIPEPTIDEMIA (MG %)
	12-III	......	26 "	34	24,1
	13-III	......	26½"	..	20
1	14-III	......	......	65	16
	17-III	......	23 "	40	10
	8-IV	40%	20 "	20	17
	10-IV	41%	23 "	40	33
2	12-IV	37%	22 "	21	23
	15-IV	40%	20 "	17	42
3	9-V	......	21½"	15	21
	10-V	......	25 "	43	66
	28-IV	41½%	19½"	24	30
	29-IV	20%	20 "	32	37
4	30-IV	......	20 "	..	40
	4-V	23%	21 "	17	40
	8-V	......	21½"	17	12
5	9-V	......	23 "	21	19
	10-V	......	23 "	23	31
	26-V	45%	23 "	26	50
	27-V	47%	23 "	50	38
6	30-V	54%	30 "	32	66
	3-VI	45%	23 "	21	42

Fué concluido:

(1) La hemoconcentración no influye sobre el tiempo de protrombina

(2) La curva de la protrombina no coincide con las de la uremia y polipeptidemia postoperatorias

(f) Relación entre ictericia mecánica y P

Veinte enfermos constituyeron nuestro material de observación a este respecto El diagnóstico operatorio fué

Litiasis coledociana	18 casos
Cáncer de vías biliares	1 "
Cancer secundario de hígado	1 "

Seis de esos enfermos tenían bilirrubinemia directa superior a 100 mgs y 5, 10 ó más miligramos La Tabla V los resume

TABLA V

CASO NO	DIAGNOSTICO	BILIRRUBINEMIA INDIRECTA	BILIRRUBINEMIA DIRECTA	PROTROMBINA
16	Lit coledoc	2,6 mg	29,2 mg	58%
17	" "	12 mg	144 mg	60%
34	" "	16,4 mg	100 mg	20%
41	Lit Vesic	3 mg	10 mg	80%
42	" "	3 mg	10 mg	60%
46	" "	8 mg	13 6 mg	65%
47	Neo v bil	8,3 mg	133 mg	40%
53	Lit coledoc	14,2 mg	200 mg	24%
59	" "	6 mg	114 mg	55%
69	" "	7,0 mg	27 mg	90%
76	" "	15,3 mg	250 mg	18%

De lo que antecede se concluye la falta de concordancia entre los valores de la bilirrubinemia y los de la protrombina, como así también entre la duración de la ictericia y P No observamos que T. P. mejorara paralelamente a la disminución de la ictericia en todos nuestros enfermos, aunque esto fué lo habitual

(g) Relación entre P, la fragilidad capilar y los tiempos de hemorragia y coagulación

Sistemáticamente, en todo litiásico biliar antes de ser operado, se investigan en el Servicio los tiempos de hemorragia y coagulación En 7 enfermos practicamos la "prueba del lazo" para investigar la fragilidad capilar

De la comparación de esos valores con los de P. podemos concluir

(1) La ausencia de paralelismo entre el tiempo de protrombina y los tiempos de hemorragia y coagulación

(2) La ausencia de relación entre el tiempo de protrombina y la fragilidad capilar estudiada con la "prueba del lazo "

RÉSUMÉ

Les auteurs étudient 76 malades sujets à un désordre, un plutôt à une maladie, hepatobiliaire A peu pres 70 pour cent avaient une durée prothrombine normale ou legèrement sous normale, à peu pres 30 pour cent avaient une valeur prothrombine anormalement basse Dans 70 pour cent des malades, le traitement sans vitamine K modifia la durée prothrombine Il n'y eut aucun rapport entre la durée prothrombine et les résultats des épreuves par l'acide hippurique L'hemoconcentration n'a aucune influence sur la durée prothrombine Il n'y eut aucun rapport entre la durée prothrombine et la bilirubinémie

Выводы

Авторы исследовали данные в 76 больных печеночно желчной болезни Из 64 с желчными камнями 70% имели нормальное или субнормальное время действия протромбина, а в 30% время было очень понижено В 70% больных лечение без витамина К модифицировало время образования притромбина Отношения между временем действия протромбина и результатами пробы гиппурной кислоты найдено не было Гемоконцентрация не имела влияния на время образования протромбина Также не было отношения между временем образования протромбина и билирубинемией

La Contribución de lós Arabes a la Cirujia*

(Contribution of the Arabs to Surgery)

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EL TIEMPO y las circunstancias me obligan a enfocar mis palabras sobre la contribución de los árabes a la cirujía menguando así mucho, muchísimo el mérito que la historia asigna y con justicia a la obra tan gigantesca e invaluable de los médicos árabes en las demás ramas de la medicina y en la civilización en general.

Sin embargo, que me sean permitidos algunos apuntes como preámbulo a este humilde trabajo.

En primer lugar, la epopeya médica durante el Islam fué edificada por el esfuerzo colectivo de hombres de razas, credos, y paises diferentes: por cristianos (nestorianos y griegos) judios tanto en el este como en el oeste (España), y por persas o árabes de pura sangre quienes vieron la luz o estudiaron y ejercieron en las escuelas de Siria, de Persia, de Alejandría o de Andalucía. Así, pues, fue una cooperación y colaboración de un vasto imperio heterogéneo que extendía desde Gibraltar hasta las montañas de India: empero homogéneo puesto que todos los médicos hablaban el idioma arabe, enseñaban e escribieron también en árabe.

En segundo lugar, la medicina en aquellos tiempos no era independiente sino connectada con las demás ciencias. Así, pues, uno es médico al mismo tiempo que filósofo, historiador, literato, abogado o ingeniero, etc., y de allí el nombre o titulo "Hakim" o "Alim"; y mas todavía los médicos ocupaban puestos de ministros y gobernadores.

La medicina entre los árabes antes de Mahomat era primitiva, basada sobre los espíritus malos, el ojo malo, y empírica. Sin embargo los árabes, con el tiempo, vieron la necesidad de salir de las fronteras de su península, y se pusieron en contacto con sus vecinos en Fenicia (Libano), Siria, Asia-menor, el Irak, Persia, India, contacto que les enseñó algunos métodos del arte de curar. Sabían tratar las heridas: las frescas quemándolas con fierro candente o mantequilla hervida, y las crónicas exponiéndolas a los rayos del sol (helioterapia). Practicaron la sangria, y usaron sanguijuelas y ventosas secas y humidas.

Uno de los más conocidos médicos de aquella epoca era Al Hareth ben-Caldah quien estudió en Jendisabur y fundó la escuela de Sanna en Arabia. Su hijo Al-Nadn fué tambien médico—la profesión era por herencia, y probablamente Al-Hareth era médico del Profeta. Además ejercían la profesión algunas mujeres.

El Islam en el primer siglo de su vida marcó la época de la formación del Imperio; sin embargo la verdadera época del florecimiento de la cultura árabe fué durante la dinastía de los Abasides que gobernaron por más de 500 años y tuvieron su capital primero en Al-Madain antigua capital de Persia y luego en Bagdad construida por Al Jalifa Al-Mansur en el año 762 A.D. etapa de oro de la escuela de lo de Abbas que extendió hasta el año 847. Se considera el año 749 como la fecha con que inauguraron los árabes la era de la ciencia en general y de la medicina en particular. A los jalifas y gobernadores, cuyo celo por la ciencia era insaciable, se debe el gran mérito del progreso y la evolución de la ciencia y de los sabios, sean quienes fuesen, de cualquier credo o nacionalidad. Pues en re-

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* Presentado en la Tercera Asamblea Internacional del Colegio, 1941.

alidad eran merecedores de sus tronos Bagdad fué la antorcha de la ciencia durante 500 años, es decir, hasta la tragedia sufrida en 1258 cuando los mongoles la invadieron destruyendo su escuela y arruinando su famosa biblioteca cuyos vestigios quedaron como testigos de aquella cultura Es necesario mencionar que al lado de la escuela de Bagdad existían otras famosas en los importantes ciudades del Imperio Arabe tales como las escuelas del Cairo, Damasco, Antioquía, Asfahan, Samarkanda, Karawan y Magreb en Africa, y la Universidad de Córdoba en Andalucía

Hay que notar que la cultura iniciada en Andalucía conquistada por los Omiades en 711 A D y cuyo califato duró hasta 1236, a raiz del establecimiento del reinado de los Abasides, igualaba a la de Bagdad en el Oriente En su capital, Córdoba, fué fundada la histórica y famosa Universidad en cuya biblioteca había a lo menos 225 mil libros, además sus hospitales en numero de 50 al servicio de su millón de habitantes De allí penetró la luz de la ciencia árabe, a Italia primero y después a toda Europa por el siglo XII Así, pues, las obras árabes y las ideas de los sabios árabes dominaron el Occidente como en Universidades de Palermo, Polonia, Montpellier, Louvain, Paris, Oxford, Padua, etc , hasta el siglo XVII A partir del siglo X Europa empezó la traducción al latín de las obras árabes y su enseñanza en sus colegios Después los sabios europeos contribuyeron más y más hasta que llegaron a cimentar la fundación de la medicina moderna a partir del siglo XV

Podemos dividir la evolución de la medicina árabe en dos etapas en general la primera de 750 900 llamándola si quereis la etapa preparativa durante la cual se realizó la traducción de las obras griegas, siriacas e indúes, y la segunda o la etapa productiva durante la cual los sabios árabes amplificaron y contribuyeron mucho a lo copiado y adquirido llevando así la medicina árabe al apogeo de la grandeza y forjando la influencia en la evolución de la humanidad

Vamos a pasar revista rápida y muy breve de lo que contribuyeron a la

Biología en la botánica mencionamos únicamente a uno de los maestros, quiero decir, Ibn Al-Bitar de cuya obra Al Mufradat dijo Le Clerc que desde Dioscoridus hasta el renacimiento ningún libro la igualaba Contiene la descripción de 1,400 drogas de las cuales 300 eran nuevas descubiertas por el mismo, durante sus viajes En la zoología han descrito muchos animales raros Al-Warrach hablando en su libro "Los Caracteres" dice que el mono es mitad hombre y mitad animal y considerándose como un eslabón en la evolución del animal y del ser humano adelantándose así a Darwin en su teoría del origin de las especies

A la Alquimia—de la cual fueron realmente los lideres Lord Bacon llama a Jaber ben-Hayyan el descubridor de la Alquimia, el maestro de los maestros, y Gustav Le Bon dijo cuando dicen que Lavoisier es el padre de la Alquimia se olvidan que los árabes desde hace mil años poseían laboratorios de química sin el conocimiento del cual Lavoisier no hubiera podido hacer un adelanto Inventaron el alambique, la destilación, congelación, filtración, trituracion, destilaron el agua y el alcohol y los usaron en sus experimentos y prepararon los ácidos los alcalinos, descubrieron el ácido nítrico y el nitrato de plata y prepararon el alcohol, jarabe, alcanfor, clavel, mercurio, quassia, senna, ambar, musk, jalapa, nutmeg, ruibarbo, aceite de cróton, calcio, almidón, fósforo, etc , y gracias a ellos nuestros enfermos pueden tomar algunas medicinas repugnantes por medio del jarabe, el tragacanto, agua de rosas, limon, naranjo, etc

Los árabes fundaron la primera farmacia en el siglo IX Saber ben Sahl escribió el primer libro que fué la primera farmacopea y Ibn Masué de Damasco la primera materia médica publicada en 26 ediciones en el siglo XV que ayudó en la formación de la primera farmacopea de Londres en el reinado de Jaime I, y usado por el College of Physicians. Shakespeare en su "Otello" alude a las drogas que usaron los árabes, así como a su medicina.

A la Medicina Interna: Se destacaron mucho en la semiología y la clínica. Ibn Zuhair fué el primero en mencionar el agente de la Sarna y hizo una descripción detallada de la miocarditis y del abceso de fijación y del tumor del mediastino de lo cual sucumbió en Sevilla (1112-1199). Al Razi fué el primero en describir la viruela y diferenciarla del sarampión; Abdul Aziz en el siglo XI referió a la infección, fermentación y putrefacción y su relación como causa de las enfermedades y la muerte, así como de las epidemias; usaron el agua fría en el tratamiento de las fiebres y en las enfermedades nerviosas; también usaron la música y el canto para el alivio de algunas enfermedades del sistema nervioso; Musa ben-Maimón (Maimonides) describió, el primero, el tratamiento de los hemorroides en su libro que se encuentra en la Escorial. Curaron la muerte aparente con respiración forzada o lo que llamamos artificial, fricción con las manos o por flagelación; aconsejaron el cambio de clima y la dietética; practicaron la psicoterapia y por ende, usaron la opoterapia el método de Brown-Séquard, desde medio siglo, aconsejando a los enfermos comer órganos crudos para aliviar los dolentes y desde aquellos tiempos remotos los habitantes del cercano oriente comen hígado crudo para aliviar al hígado, riñones, corazones, etc.

A la Anatomía—Algunos autores atribuyen erroneamente a los árabes su conocimiento muy superficial de la anatomía y de la fisiología a causa de la religión que prohibe la disección y ordena el respeto completo a los muertos y que lo que sabían era merced a los sabios de la escuela de Alejandría y de Galeno, Herofil y Aristrat. Sin embargo, eso no es verdad, pues los árabes escribieron muchas obras sobre esa rama, siendo Ibn Masue el primero quien basó su estudio sobre la disección de los monos. También Al-Razi, Ibn Abbas, e Ibn Sina en su Canun conocían la anatomía de los ojos maravillosamente. Es interesante leer en la obra de Abdul-Latif (1161-1231) de Bagdad sobre su experiencia en Egipto en el tiempo de Saladino, lo siguiente:

"Muchas veces los estudiantes y maestros comprendieron con dificultad algunas materias de la anatomía por carencia de investigación ocular y práctica. Nos informaron que en el Maks se encontraban numerosos cadáveres. Luego fuimos allí y los estudiamos detenidamente añadiendo mucho a nuestro conocimiento y descubriendo nuevos hechos no mencionados en los libros. Galeno, por ejemplo, famoso por su competencia y cautela, dijo que el maxilar inferior se compone de dos huesos conectados con una sola articulación, y hemos notado la falsedad de eso. Vimos que el maxilar al contraria es un solo hueso, no tieno ni articulación ni fisuras. Examinamos lo menos dos mil craneos."

Ibn Al-Nafis en su tratado de anatomía habla de la pequeña circulación refutando las ideas de Galeno que más adelante tratamos.

A la Cirujía—Los árabes practicaron la cirujía y escribieron mucho sobre ella. Utilizaron ampliamente la sangría y la cauterización; extrajeron proyectiles y cuerpos extraños en particular cálculos, cataratas; describieron los métodos de ligaduras de los vasos en las hemorragias adelantando así al maestro Ambroise Paré, y las suturas de las heridas con hilo de seda, cuerdas de Laúd y agujas de metal—(relatan los historiadores españoles Ordaza Chacón y Juan Tragasa que los árabes emplearon las hormigas grandes para cerrar las heridas haciéndolas apretar los bordes aproximados con sus antenas y cortándolas la cabeza dejándolas en esta posición que tal vez dió más tarde la idea del invento y uso de las grapas metálicas); practicaron las irrigaciones, amputaciones, reducción de luxaciones; curaron las fracturas, deformaciones, aplicaron el agua fría como hemostático en la hemorragia capilar y usaban una plancha caliente para el tratamiento del absceso del hígado quemando así la pared abdominal hasta llegar al absceso y secarlo Conocían los árabes la anestesia y la practicaron usando esponjas empapadas en substancias hipnóticas, aromáticas como el hachich (cannabis indíca), el beleño y el opio—procedimiento que llamaron el tabnij o el banj Secaban aquellas esponjas y las guardaban hasta el día de la operación Entonces las mojaban y las aplicaban a la nariz para adormecer a los pacientes Esta práctica fué más tarde copiada por los europeos En la cirujía ocular fueron sin duda los primeros y escribieron los mejores libros que fueron textos en las universidades por muchos siglos Los instrumentos que emplearon eran numerosos y hechos de oro, fierro, o de cobre La cirujía dental también progresó mucho en aquellas tiempos Curaron los abscesos y las caries con cauterio o llenaron la cavidad dentaria a través de un embudo de metal, con mantequilla caliente Sabían la obturación y hacían casquillos de oro a plata y reemplazaron los dientes perdidos con dientes de hueso o de marfil, uniéndolos con hilos de oro Y para extraer los dientes usaron pinzas o forceps muy parecidos a los que se usan en nuestros días

Roger que fué el primero que escribió en Europa sobre la cirujía práctica y cuyos libros se consideran como la base de la cirujía en Europa, no hizo si no traducir los trabajos de Al Zahraui (Albucasis) y difundirlos así como los de Al-Razi y Ibn Sina Guy De Chauliac es otro autor quien imitó a Roger

Entre los famosos cirujanos y operadores árabes, mencionamos a Abul-Kasim Al Zahraui, quien sin duda alguna es el padre de la cirujía moderna, Al Razi, el primero que se ocupó bastante de la cirujía, Ali ben Al-Abbas de Persa y Ibn Sina

Al-Razi (Razés) (860 940) nació en Al-Rai en Persia y vivió 80 años, y perdió la vista poco antes de morir Recibió en la escuela de Bagdad y era un genio, y el maestro de los maestros en su tiempo, cuajado clínico y muy humanitario con los enfermos Aprendió el canto y tocaba bien el laud Fué director del manicomio del Rai y de Bagdad Inició la clínica cerca de la cama del enfermo donde daba su catedra a sus discípulos Dejó más de 237 obras la mayoría de las cuales por desgracia se perdió Su libro Al Mansuri dedicado al Mansur gobernador de Jarasan contiene en su novena volumen una descripción completa y minuciosa de la anatomía humana desde la cabeza hasta el pie, siendo el primer libro en árabe después de aquel de Ibn Masue Fué traducido al latín "Nonus Almansoris," y ocupó un lugar importantísimo en la Europa central sobre todo en la Universidad de Tubingen, como texto hasta el fin del siglo XV Este libro y Al-Hawi fueron traducidos al griego y al francés Es también autor de un libro sobre la calculosis del riñon y de la vejiga y otro sobre el cólico abdominal Empero lo que perpetuó el nombre de Al Razi es su descripción implecable, que fué la primera, de la viruela y del sarampión así como el diagnóstico diferencial entre estas dos dolencias que imparcialmente hablando iguala si no supera a cualquiera descripción de la actualidad Su libro sobre la viruela y el sarampión fué traducido al latín y otros idiomas europeos y publicado muchas veces en árabe. Criticó mucho y hizo mucha guerra a los charlatanes y al charlatanismo, y es de lamentarse que después de haber vivido y trabajado mucho, murió en la miseria y la probreza a causa de la persecución de Al-Mansur.

Ibn Sina (Avicenna) (980-1037), el sheik o el raïs, el hipocrates árabe de quien Dante habló como uno de los grandes filósofos y sabios más famosos. Nació cerca de Bukara y era un verdadero genio superando a Galeno y Aristotl en su discusión y crítica. Estudió el Coran a la edad de diez años y completó el estudio de leyes, filosofía, física y lógica a la edad de diez y seis y luego la medicina a la edad de diez y ocho. A esta edad adquirió una fama general. Escribió el primer libro a la edad de veintún años. Escribió en todas las ramas de la ciencia y la medicina y era además poeta inspirado; sus versos en árabe son filosóficos, y su poesía de 1,314 versos sobre la medicina es admirable. La obra más importante de Ibn Sina fué el Canún famoso y usado universalmente y estimado hasta nuestros días. Contiene un millón de palabras y fué traducido al latín el texto en las universidades de Montpellier y Louvain hasta el siglo XVII. Ultimamente Crooner empezó a traducirlo al inglés y publicó el primer volumen. También fué publicado en árabe tres veces: una en Roma en 1593, otra en Bulak. Egipto en 1394, y la última en India en 1323 de Hagira.

Ibn-Al-Nafis—del siglo VII del hagra y el XIII de la E. C., era otro de los maestros inmortales. Fué autor y descubridor de la pequeña circulación o circulación pulmonar. Su descripción de ella es implecable y refutando la doctrina de Galeno quien afirmaba la existencia de agujeros finísimos a través de los cuales pasaba la sangre del ventrículo derecho al izquierdo del corazón. Pues Al-Nafis confirmó que la sangre pasa del ventrículo derecho directamente al pulmon donde se mezcla con el aire y de allí se va al ventrículo izquierdo. He aquí lo que dijo textualmente: "Entre ellos (es decir entre los ventrículos) no hay comunicación; la pared del corazón no tiene ninguna puerta para que la sangre pueda pasar de un lado a otro, como enseñó Galeno. La sangre penetra a través de la vena pulmonar a los pulmones para mezclarse con el aire, purificarse y luego regresar a través de la arteria hacia el ventrículo izquierdo del corazón, así purificada y lista para que el espíritu nazca." Este descubrimiento del siglo XIII fué reclamado y pretendido por algunos europeos en el siglo XVII discutiéndose entre sí quien era el autor de tan importante hallazgo.

Abul-Kasim Al-Zahraui (Albucasis) (936-986), nació en Zahra cerca de Córdoba, Andalucía. Fué el padre de la cirujía en la edad media y sus obras la base de la cirujía europea moderna. Médico de cabecera de Abdul Rahman tercero y únanimamente considerado como la primera figura en la cirujía árabe. Autor de una enciclopedia de 30 volumenes cuyas copias se encuentran en Egipto, en la biblioteca nacional de Damasco, y en Beyrouth (Libano). Este libro de cirujía, Altasrif, fué traducido al latín en el siglo XVI y el texto fué usado en Europa durante mucho tiempo. Se considera como el más clásico y completo en árabe, trata de cirujía general con descripción de las diferentes operaciones, el tratamiento de las fracturas y dislocaciones y la cauterización, conteniendo a lo menos 200 figuras de los instrumentos usados por el autor. Fué traducido varias veces al latín y servía de texto en las escuelas europeas; el original en árabe fué publicado en la India y en Londres juntamente con una traducción latina en 1778 E.C. Al leer su obra se convence uno de que el autor era un gran cirujano. Os doy como prueba su método en el tratamiento del cáncer, de su libro manuscrito que se encuentra en el Museo Nacional de Damasco, donde dice: "El tratamiento del cáncer con las medicinas y la abstención de tocarlo con los fierros para que no vaya a ulcerarse. Hemos mencionado el cáncer del utero y su tratamiento. Cuando el cáncer se encuentra en un lugar imposibilitando su extirpación total, se ha hecho crónico y voluminoso, se aconseja no tocarlo porque no he tenido ningún exito ni he visto alguno en manos de otros compañeros atreverse a operarlo. Empero si se encuentra en un lugar accesible como por ejemplo el pecho o la pierna, etc., particularmente siendo joven y pequeño, entonces si debe proceder en la manera siguiente: purgar el enfermo y luego sangrarlo si es pletórico y tiene los vasos sobre cargados de sangre, sujetándole bien en una posición conveniente, limitar el cáncer con ganchos (pinzas); habiendo hecho eso, empezar a cortarlo entero con la piel de todos los lados y extirpando hasta las raices; luego dejar que la sangre espesa escape totalmente ayudándola con la mano o con algún instrumento. Sin embargo, si tropieza con alguna hemorragia de una arteria a veno seccionadas, quémelas hasta conseguir la hemostasis y cúrelo después con medios médicos y Diós es El que da el alivo."

¿No da esta descripción la impresión de que Ibn Al-Abbas era cirujano del siglo veinte y no del siglo once? Pues la cirujía moderna no ha adelantado más en este sentido. Dijo claramente que el cáncer viejo y voluminoso es incurable y al revés el joven y pequeño. Además, el empeño de extirparlo con la piel. Otro punto muy interesante es en dejar la sangre gruesa escapar hasta que no se quede nada del tejido o de la substancia cancerosa como so hubiera conocido la metátasis de los tumores malignos. Abul Kasim practicó la tracheotomía y tuvo en la oftalmología procedimientos muy originales. Fué primero en escribir sobre el tratamiento de las deformidades de la boca y arcos dentales y en dar una descripción de los instrumentos quirúrgicos y por ende, usó suturas de hilo de seda y de lo parecido al cat-gut, y en las heridas pequeñas del abdomen recomendó de aproximar los bordes y fijarlos en esta posición con agujas de metal alrededor de las cuales enredó hilo especial en forma de la figura ocho.

Señorès: Si los árabes no han hecho más que contribuir a la conservación y evolución de la ciencia en general de la destrucción y del olvido durante la Edad Media, basta para inmortilizarlos y que sean glorificados por todas las naciones y en todas las épocas. He dicho.

SUMARIO

El Autor expone la alta cultura de los árabes y su influencia en la Medicina. Se remonta a los orígenes del Islam, en la época de la famosa escuela de Jindisabur. Luego cita la de Bagdad, con sus millares de libros, sus hospitales y sus 860 médicos registrados. Exponente del grado de cultura es que los médicos eran protegidos sin distinción de credo. Duró hasta la invasión mongol, y salvo para el Mundo, conservándolo hasta el Renacimiento, el tesoro de la Cultura Griega.

Revista luego la conquista de Andalucía, con la fundación de la Universidad de Córdoba, que tenía 225 mil libros y 50 hospitales. En Granada se inició la costumbre de discutir entre alumnos y profesores, originándose la tradicional "tesis de grado."

Del siglo XII al XVII las ideas de los sabios árabes dominaron a Europa en las Universidades de Palermo, Polonia, Lovaina, Paris, Oxford, Padua, etc.

Estudiaron los árabes las ciencias

naturales, aportando conocimientos prácticos (descubrimiento de remedios) e ideas generales, tales como la de la similitud del hombre y los monos.

En Alquimia, descubrieron la destilación, y otros métodos y prepararon ácidos, álcalis y sales.

En Anatomía, como las ideas religiosas prohibían la disección de hombres, disecaron monos.

Se les debe la descripción y distinción de muchas enfermedades, así como muchas prácticas de orden quirúrgico: sangrías, cauterizaciones, extracción de cuerpos extraños, ligadura de los vasos, etc.

Aunque siempre frenados por los sentimientos religiosos que les impedían anotar rigurosamente los hechos observados, desligaron la medicina de la astrología y supersticiones.

SUMMARY

Arab civilization occupies a great volume in the history of nations. The Arabs were the conservers and promoters of the science of old civilizations, from which they copied, especially in medicine, and bequeathed it to the Europeans.

Medicine and surgery among the Bedouins in Arabia were primitive and empiric. They used venesection, cupping, and leeches, and treated fresh wounds with boiled butter or by burning them with a red hot iron, and chronic wounds with exposure to the sun's rays (heliotherapy).

In the first century of Islam, the Arabs dedicated themselves to translation and then to amplification. The year 749 is considered as the date of the beginning of the Golden Era of Arabic science in general, and of medicine in particular. Bagdad held the torch of culture during five hundred years in the East, and Andalucia up to 1236 in the West.

In botany they described about 20,000 drugs; in zoology they described many rare animals, and Al-Warrak discussed the Darwinian theory and the missing link centuries before Darwin. They are considered the Fathers of Chemistry. Lord Bacon called Jaber ben-Hayyan the discoverer of chemistry, and Gustav Le-Bon believes that Lavoisier would have been unable to do what he did for chemistry were it not for the Arabs. They were the founders of the first pharmacy in the ninth century and wrote the first pharmacopea and the first materia medica.

In internal medicine, they discovered scabies and described heart disease and mediastinal tumors. They were the first to describe smallpox and measles and to speak about infection and epidemics. They used cold water for fevers and music and singing for certain nervous diseases, recognized abscess of fixation, knew how to diagnose and treat apparent death and used opotherapy before Brown-Séquard.

They dissected monkeys and studied their anatomy thoroughly. Ibn Nafis discovered the pulmonary circulation in the thirteenth century, Al-Razi wrote the first detailed book on anatomy.

In surgery, they used venesection, and cautery and extracted projectiles and foreign bodies, e.g. stones and cataracts. They described ligatures for blood vessels long before the time of Ambroise Paré, used silk thread, catgut, and metal needles to suture wounds, practiced anesthesia, used irrigations, knew how to handle fractures and deformities, and operated for cancer. In surgery of the eye they made great progress, and discovered original procedures. In dental surgery they were noted.

Their books on surgery were used as texts in Europe up to the sixteenth century. Their famous surgeons were Ibn Al-Nafis, Abdul-Kasim, Al-Zahraui, Ibn-Sina and Al-Razi.

RÉSUMÉ

L'auteur expose la haute culture des arabes et leur influence en Médecine. Il commence a l'origine de l'Islam, au temps de l'école de Jindisabur, continue par celle de Bagdad, avec ses milliers de livres, ses hôpitaux, ses 860 médicins enregistrés. Un exposant de la culture est le fait que les médecins étaient protégés sans distinction de croyance. L'école dura jusqu'à l'invasion mongôle, gardant pour le monde le trésor de la culture grecque, qu'elle mena jusqu'à la Renaissance.

Il étudie la conquête d'Andalousie, la fondation de l'Université de Cordoue, avec ses 225 mille livres et 50 hôpitaux. A Grenade naquit la coutume de discuter entre professeurs et élèves, origine de la "thèse de degré." Du siècle XII au XVII les idées arabes dominèrent l'Europe à travers les Universités de Palermo, Pologne, Padoue, Louvain, Paris, Oxford, etc.

Les arabes étudièrent les sciences naturelles, apportant des connaissances pratiques (drogues) aussi bien que des idées générales (similitude de l'homme et le singe).

En alchimie, ils découvrirent la distillation et d'autres procédés, et preparèrent des acides, des bases et des sels.

En anatomie, comme la réligion défendait la dissection d'êtres humains, ils dissequèrent des singes.

On leur doit la description de beaucoup de maladies et beaucoup de manoeuvres d'ordre chirurgical: saignée, extraction de corps étrangers, ligature des vaisseaux, cautérisation, etc.

Quoique toujours frienés par le idées réligieuses, qui leur empêchaient de voir rigoureusement les phenomènes, ils separèrent la médecine de l'astrologie et la superstition.

Выводы

Арабская цивилизация занимает большое место в истории народов Арабы сохранили и развили древние цивилизации, от которых они многое скопировали, особенно в медицине, и оставили это наследство европейцам.

Между бедуинами Арабии медицина и хирургия были примитивны и эмпирические Они употребляли веносечение, банки, пьявки и лечили свежие раны кипящим маслом или докрасна раскаленным железом, а хронические раны они подвергали действию солнечных лучей (гелиотерапия)

В первом столетии Ислама арабы посвятили себя к переводу, а затем к расширению, работ 749 год считается золотой эрой арабской науки, вообще, а медицины, в частности 500 лет Багдад держал факел культуры на востоке, а на западе до 1236 года Андалузия играла ту же роль

В ботанике арабы описали 20,000 лекарств, *в зоологии они описали многих* редких животных и Ал-Варрак обсуждал дарвиновскую теорию и потерянное звено за несколько столетий до Дарвина Они считаются отцами химии Лорд Бэкон называет химию открытием Йабер-бен-Хайиана, а Густав ЛэБон думает, что без арабов Лавуазье не мог бы дать химии то, что он дал В девятом столетии арабы основали первую аптеку, написали первую фармакопею и терапию

В внутренней медицине они открыли чесотку и описали сердечную болезнь и медиастальные опухоли Они первые описали оспу и корь и говорили об инфекции и эпидемиях Они употребляли холодную воду при лихорадках и музыку и пение в некоторых нервных болезнях, разпознали нарывы, знали как поставить диагноз и лечить кажущуюся смерть, и применяли опотерапию до Brown-Sequard'a

Они диссектировали и подробно изучали анатомию обезьян В тринадцатом столетии Ибн Нафис открыл кровообращение легких Ал-Рази написал первую подробную книгу по анатомии

В хирургии они применяли венесекцию, *удаляли пули и посторонние* вещества, как камни или катаракты Они описали перевязку сосудов за долго до Амбруаз Парэ, употребляли шелк, катгут и

металические иголки для зашивания ран; употребляли анэстезию и ирригацию, знали как манипулировать переломы и деформацию. Они сделали большой прогрес в глазной хирургии и изобрели оригинальную методику. Они были известны в зубной хирургии.

В Европе их книги по хирургии употреблялись, как учебники, до шестнадцатого столетия. Их знаменитыми хирургами были: Ибн-Нафис, Абдул-Казим, Ал-Захрауй, Ибн-Сина и Ал-Рази.

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Original Articles

Rehabilitation

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FEW problems have taken greater hold upon popular imagination than rehabilitation. It required the sickness and disabilities incident to war to develop in this nation an awareness of the magnitude and importance of this subject. In the past there have been many whose conception of rehabilitation has been too limited. If a comprehensive rehabilitation program is to be successfully carried out, the subject must be thought of in its broadest sense. As pointed out by Hostetler,[1] it should include all forms of physical, social, psychologic, recreational and occupational therapy as well as reeducation in vocational fields. To these activities must be added sound medical and surgical treatment. In the light of such a concept there is merit in the recent suggestion that rehabilitation should be called "reconstructive medicine."[2]

Those who are accustomed to think of rehabilitation only in relation to diseases and injuries resulting from war have overlooked the important relation which this subject bears to industry, which for many years has presented a problem in rehabilitation of staggering proportions. It has been stated that industrial injuries for 1940 were listed at 1,890,000, with 18,000 fatalities, nearly 90,000 persons permanently impaired and 1,782,000 temporarily disabled. Loss of time, excluding that due to deaths and permanent disabilities, was estimated at 41,912,000 days, the equivalent of the full time work of 140,000 persons. If deaths and permanent injuries are included, the total soars to 233,840,000 days, amounting to the full time work of 780,000 workers.[3] These appalling figures have been augmented as a result of industrial activity in the last few years, which has made it necessary to employ a large number of comparatively ill trained workers, older persons and women. It is obvious, therefore, that rehabilitation offers a peace time problem comparable to that brought about by war. When to this toll of disability present under ordinary conditions of life there is added the as yet undetermined number of persons whose physical and mental impairment is the outcome of war, the problem of rehabilitation attains proportions that are well nigh fantastic. It is not difficult to envision the medical, social, economic and even political potentialities of such a situation.

Although the ever present task in rehabilitation that confronts industry is fully recognized, concern at this time centers about the obligation to insure adequate reconstruction of returning service men and women. In planning any form of assistance to such a group of persons, it is desirable to subdivide them. Such a division, however, offers

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difficulty, since they have but one common denominator, their service in the organized armed forces. This experience has removed them from their normal environment, separated them from their former associates and modified their personalities and reactions by exposure to new forms of discipline, regimentation and group training. Otherwise they are heterogeneous; they come from widely scattered geographic areas; they represent many social and economic groups; their educational backgrounds have not been uniform; in civilian life they have been occupied in all manner of vocations and professions. There has not even been any similarity in their individual experience in the military service. Some have never left the homeland, while others have been transplanted for months or years to strange, far distant countries. Some have been actively engaged in the destructive activities of the battlefronts; others have pursued essentially peaceful occupations in rear areas. All of these factors require careful consideration in working out an effective program of reconstruction, but present innumerable perplexities if used as a basis for grouping the individuals. For the purpose of this discussion, which deals with the broad aspects of rehabilitation, it would seem best to follow the plan adopted by Meakins,[4] which divides returning service men and women into the following groups:

1. Those who have serious physical disability, such as loss of a limb or of sight or hearing or impairment of the use of one or more limbs.
2. Those who have a severe systematic illness, such as tuberculosis, arthritis, malaria or filariasis.
3. The psychotic persons and those suffering from psychoneuroses.
4. Those who are to all intents and purposes mentally and physically well.

Discussions of rehabilitation for the most part pay little or no attention to these, who comprise the majority of the persons who are separated from the military services.

It would be inappropriate on this occasion to attempt to discuss in detail the various steps in the rehabilitation of these different groups. A consideration of the basic principles involved in the management of the first three groups mentioned is desirable. The first step in rehabilitation is competent surgical and medical care. Thanks to the admirable organization and efficiency of the medical departments of the United States Army and Navy, it is well recognized that from the forward echelons at the battlefronts all the way back to the general hospitals in this country, the injured and sick of the armed forces are given the best medical and surgical care. Responsibility does not end with the provision of an adequate treatment for the sick and wounded. It must be accompanied with or followed by a well considered program of physiologic reconditioning. The purpose of such a reconditioning program is to return the maximum number of casualties to active duty in the minimum amount of time and, in the case of those who cannot be retained in the armed forces, to insure for them a useful place in civilian life. Manpower shortages and the necessity for conserving battle-seasoned troops for further duty have brought about the development of a highly efficient program of convalescent reconditioning in both the Army and the Navy. The details of the organization and operation of this program have been discussed elsewhere by those best qualified to speak from first hand experience and with authority.[5, 6]

For some time, interest in planned

treatment for convalescents has been growing among the medical profession. It has been stimulated by the lessons that have been learned as a result of this war. This experience should prove of great future help in civilian practice, especially in industrial practice. At this time it is particularly important to do everything possible to return injured employees to productive employment in the shortest possible time. To accomplish this, it has been shown that convalescent reconditioning plays an important role.

The reconditioning of those who are disabled, regardless of the extent or origin of their disability, presupposes the best medical and surgical care that is available. This may involve any of the special fields. In addition to anything else that may be required, experience has shown that in any successful rehabilitation program physical medicine, occupational therapy and psychotherapy are indispensable adjuncts. These special types of therapy should not be reserved until convalescence is well established. More and more they are being employed as soon as the acute and critical stage of disability is past. The sooner they are used, the better will physical fitness be preserved and morale improved. Consideration of occupational therapy or psychotherapy must be left to those better qualified to deal with these forms of treatment. In passing, it may be pointed out that although the formal use of psychotherapy is properly the function of those who are especially trained in that field, its general application should not be so restricted. Consciously or unconsciously it is employed routinely by every successful physician. It should be part of the armamentarium of the physical and occupational therapeutist, the results of whose work can often be greatly enhanced by the intelligent use of psychotherapy.

The experiences of the last war, which have been supplemented by those of the present conflict, have emphasized the importance of physical medicine in any effective program of rehabilitation. The wide scope of the term physical medicine is well illustrated by the definition of this subject recently proposed by Krusen[7]: "Physical medicine includes the employment of the physical and other effective properties of light, heat, cold, water, electricity, massage, manipulation, exercise, and mechanical devices for physical and occupational therapy in the diagnosis or treatment of disease. Physical medicine is applied biophysics."

The dependence which physical reconstruction places on physical medicine is apparent when it is realized that in civilian practice 5 to 10 per cent of all patients are in need of some form of physical treatment. In 1939, 8.3 per cent of all patients who registered at the Mayo Clinic were treated at some time in the Section of Physical Medicine. By 1942 this figure had increased to 9.5 per cent. Today it is even higher. The number of patients who require physical forms of treatment is greater in military than in civilian practice. A year ago in the military establishments of the United States the figure varied between 10 and 20 per cent. In the early part of this year it was stated that at the Walter Reed Hospital approximately 20 per cent of all patients admitted were referred to the Department of Physical Medicine.[8] An appreciation of this situation led Colonel Frank Billings, Chief of the Rehabilitation Service after the last war, to state: "Every hospital needs a physical therapy department as much as it needs an operating room."[9]

It is undeniable that until recently the members of the medical profession of this country as a whole have exhibited an apathy amounting almost to indifference to the value and the possibilities of physical medicine. As a result of this attitude, they recently found themselves woefully unprepared to meet the urgent demands of the armed forces for medical personnel especially trained in this field of therapy. Those who have long appreciated the possibilities of physical medicine are gratified to note the somewhat tardy increase of interest in this subject. Although the needs of our armed forces and the rapidly expanding rehabilitation program can be held largely responsible for this change in attitude, credit is due also to the constant efforts that have been exerted by certain organizations interested in physical medicine. Notable among these are the Council on Physical Medicine of the American Medical Association, the Foundation for Infantile Paralysis and, most recently, the Baruch Committee on Physical Medicine. With the aid and encouragement of these and similar groups, a number of medical schools are now engaged in developing programs to further instruction and research in physical medicine. It is anticipated that these activities not only will place this branch of therapeutics on a sound scientific basis but will develop a sufficient number of physicians and technicians adequately trained in this field to meet the problems of rehabilitation with which this nation will be faced for many years to come.

Time does not permit a detailed consideration of the many conditions encountered in military practice that are amenable to or at least helped by recourse to the various technics employed in physical medicine. There is general agreement that physical forms of treatment are valuable adjuncts in the management of many traumatic conditions, notably fractures, dislocations, traumatic arthritis and stiff joints. They are indispensable for many orthopedic conditions, for example, postural strains, backache and flat feet. Physical therapy is of great value in the rehabilitation of patients who have suffered trauma to the soft tissues, such as amputations, scars, contusions, sprains and other forms of lacerations to muscles and tendons, paralyses resulting from peripheral nerve injuries, tendon transplants, tenosynovitis and bursitis.

The value of physical therapy for many medical conditions is not so clearly appreciated, but it occupies a foremost position in the rehabilitation of persons with arthritis and in the management of that large group of ill defined neuromuscular disorders variously referred to as myositis or fibrositis. It has a definite field of usefulness in cases of cardiac disease, particularly that of functional origin, of peripheral vascular disease, of anemia and even of pulmonary tuberculosis, blindness and deafness. The modern treatment of the psychoses and the psychoneuroses would definitely lose efficiency if deprived of the aid of physical therapy.

As stated earlier, physical medicine is now being employed in the treatment of convalescents. While the disabled are still in bed, exercises and massage may be carried out with advantage. As convalescence progresses, graduated and regulated active exercises are substituted and, when needed, appropriate corrective gymnastics. It is interesting to recall that exercise during convalescence and in the management of chronic disease was long ago advocated by S. Weir Mitchell, of Philadelphia. His teachings were largely lost sight of and neglected until interest was recently aroused in the advantages and disadvantages of rest in bed and in the economic and industrial importance of shortening convalescence and returning the disabled and sick to their accustomed occupations in the best possible physical and mental condition. The foregoing allusions, admittedly incomplete, nevertheless convey some idea of the part that physical medicine may be expected to play in the rehabilitation program in the United States.

In most considerations of reconstruction scant attention has been paid to the fourth group designated by Meakins,[4] the service men and women who are returned to civilian life apparently entirely well. It is not generally appreciated that a change takes place in all who have experienced a tour of duty in the armed forces. It is erroneous to believe that the service man returns to civilian life the same person he was when he entered the army. Personality has been altered more or less obviously as the result of suppressing individualism to meet group needs. Furthermore, the places, the people and the work to which he or she has become adapted in premilitary days will also have changed. This readjustment of the war veteran to civilian life and industry has been well discussed by Cameron.[10] Those responsible for the rehabilitation program will have failed in their obligation to the men and women in the armed services if they believe that persons who are still physically fit need merely to be discharged and returned to civilian life with words of praise and a separation allowance. It has been suggested that centers be established, under the control of the Army and Navy or other agencies, where a trained personnel will be available to help with sympathy and understanding in the many psychologic and social readjustments that will be necessary before some of the individuals in this group can be reestablished with self respect and contentment in the industrial life of their communities.

It has been repeatedly pointed out that the chief interest of the Army and Navy in rehabilitation is to shorten the convalescent period and to return thoroughly reconditioned individuals to active duty. When, after a period of maximum hospital care and observation, it has been definitely shown that a man or woman is unfit for further military service, he or she must be discharged from the armed services and other agencies must carry out the rehabilitation. Fortunately there exists in this country a department that for nearly twenty five years has been concerned with the welfare of the veterans suffering from disabilities, whether acquired in service or not. This same agency is charged with the responsibility of the care and rehabilitation of the disabled and sick veterans of this war. That agency is the Veterans Administration. It is curious that both the medical and the lay public are amazingly uninformed as to the varied functions and the notable accomplishments of this vast department of the government. This ignorance is the more astonishing when one recalls the huge financial burden that the taxpayers of this country have carried and will continue to carry for generations in order to maintain properly the essential activities of the Veterans Administration.

In a paper delivered before the American Neurological Society in May 1944 on the rehabilitation activities of the Veterans Administration, Dr. Martin Cooley, at that time still an active executive in the Administration, indicated the magnitude of the facilities which this organization provides for the medical care of ex servicemen

"The Veterans Administration stands ready today to provide out-patient treatment in over 100 field stations, located in practically every state, and such out-patient service can be brought to the home of the beneficiary who cannot travel to the nearest such field station. For hospital treatment and domiciliary care, 80,000 beds are presently available and that total will rise to 104,000 in two years, while on cessation of hostilities, it is expected that 100,000 additional beds in modern, strategically located situations will be turned over by the Army and Navy for use by the Veterans Administration. Hospitalization is furnished not only for disease and for injury attributable to former armed service but for any condition having no such relation, and for applicants of the latter class, there is no requirement as to length of service. Had they served only one day, they will be entitled under most liberal conditions to free hospitalization for any disease or injury they may develop during life."

Today throughout the length and breadth of this country, there are ninety-four hospitals under the Veterans Administration. The object of their rehabilitation program is: first, to furnish the best form of medical and surgical reconstruction; second, to supplement this by satisfactory physical and occupational therapy; third, to institute appropriate vocational training; fourth, to provide selective placement in industry.

In addition to the Veterans Administration, there has now been set up the Office of Vocational Rehabilitation of the Federal Security Agency, with its various state branches. Since the establishment of this office an additional responsibility has been placed upon the Veterans Administration to administer a vocational rehabilitation service through fifty-three field agencies.

When the Army and Navy, the Veterans Administration and other governmental facilities have accomplished their maximum in the way of reconstruction, responsibility for the rehabilitation of former service men and women has not ended. From then on it becomes the duty of communities as well as of industry to see that the task is brought to completion and that those who have sustained disabilities in the service of their country may be returned to productive employment. In this undertaking the cooperation of industry is already apparent. Large employers of labor are alive to their opportunity as well as to their responsibility. In some industries, carefully selected organizations involving the personnel and medical departments have already been formed so that employees returning from the armed forces can be assured of their former positions and be made to realize that their reemployment is in no sense an act of charity but is justified by their productivity and skill.

To meet these problems of reconstruction with intelligence and understanding will require, as Meakins put it, "the combined efforts of physicians, surgeons, psychiatrists, industrial psychologists and sociologists and the leaders of labor and industry." Just as civilians are being turned into effective soldiers with such cooperation, it should be possible to develop an equally efficient technic for converting good soldiers into useful civilians.

SUMMARY

Rehabilitation must be considered for industrial workers as well as for members of the armed forces. Concern at this time, however, centers about the needs of returning service men and

women. According to the classification proposed by Meakens,[4] these may be divided into four groups: (1) those who have serious physical disability; (2) those who have acquired a severe systemic illness; (3) those suffering from a psychosis or a psychoneurosis, and (4) those who are to all intents and purposes physically and mentally well. It must be remembered that even the fourth group have undergone a change as a result of their wartime experience and that attention must be given to their readjustment to civilian life.

Rehabilitation requires work in various special fields of medicine and surgery. Physical medicine, occupational therapy and psychotherapy are indispensable adjuncts. The importance of physical medicine is especially stressed.

The United States Veterans Administration will play an important part in the work of reconstruction. Local communities and industrial leaders must cooperate, however, in this huge task of converting good soldiers into useful citizens.

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SUMARIO

El autor dice con énfasis que la rehabilitación deberá ser tomada en consideración tanto para con los que trabajan en la industria como también para los miembros de las fuerzas armadas. Nos preócupan actualmente las urgentes condiciónes entre los hombres y mujeres que regresan del servicio. Según la clasificación propuesta por Meakens,[4] estos pueden ser divididas en cuatro grupos: (1) los que tienen seria incapacidad física; (2) los que han adquirido una enfermedad sistémica seria; (3) los que súfren de psicosis o de psiconeurosis; (4) los que de todo punto de vista físico o mental están sános. Se lláma la attención a que los del cuarto grupo han sufrido un cambio como resultado de las experiencias de la guerra y que se debe tomárse en cuenta la necesidad de restablecerlos e integrarlos a la vida civil.

La rehabilitación require trabajo en varios rámos de la medicina y de la cirurgía.

La medicina fisica, la terapeutica de ocupación y la psicoterapeutica son indispensables adjuntos en el manejo de estos casos, y la medicina física con especial acento.

La Administración de Veteranos de los Estados Unidos indudablemente hará buen trabajo de reconstrucción. Las comunidades locales y los jefes de la industria dében cooperar en la labor de convertir buenos soldados en ciudadanos útiles.

RÉSUMÉ

Il importe de réfléchir sur les méthodes à employer pour la réhabilitation des travailleurs et des soldats, marins et autres des forces armées. Pour le moment, les besoins et les soins à donner aux hommes et aux femmes qui retournent au pays après avoir servi dans les forces expéditionnaires dominent le sujet. D'après l'auteur, ceux-ci peuvent être classifiés en quatre groupes distincts: (1) ceux qui ont de grands blessés; (2) ceux souffrant d'une grave maladie systémique; (3) ceux souffrant d'une psychose ou d'une neuropsychose; (4) ceux qui apparemment sont bien portants, physiquement et mentalement.

Ces derniers, ayant subi certaines influences durant leur service militaire, demandent de certains soins pour se reajuster à la vie civilienne.

La réhabilitation exige l'attention de spécialistes en médecine et en chirurgie. La médecine physique, la thérapie occupationnelle et la psychothérapie sont des adjuvants indispensables. Il faut insister sur la grande importance de la médecine physique.

Le United States Veterans Administration jouera un grand rôle dans l'oeuvre de la réconstruction. Les chefs d'industris et des comités locaux doivent coopérer dans la tâche de faire des citoyens utiles de ces braves soldats.

СВОД

Автор подчеркивает необходимость принять в соображение реабилитацию не только солдат, но также и промышленных рабочих. Но в настоящее время интерес концентрируется, главным образом, на нуждах мужчин и женщин, возвращающихся с военной службы. Maekens делит их на четыре группы: (1) те, кто поражены серьезным физическим недостатком; (2) те, кто страдают сильной системной болезнью; (3) те, кто страдают от психоза или психоневроза, и (4) те, кто практически здоровы в физическом и душевном отношении. Указано, что под влиянием испытаний войны даже эта последняя группа подвергнулась некоторым переменам, и что нужно обратить внимание на приспособление ее к частной жизни.

Реабилитация требует работу в различных специальных областях медицины и хирургии. Физическая медицина, трудовая терапия и психотерапия являются необходимыми инструментами. Особенно подчеркнута важность физической медицины.

Администрация ветеранов Соединенных Штатов (The United States Veterans Administration) будет играть большую роль в работе реконструкции. Но местные общины и вожди промышленности должны тоже содействовать в этой громадной работе трансформации хороших солдат в полезные граждане.

ACTIVITIES OF THE INTERNATIONAL BOARD OF TRUSTEES SINCE THE FOURTH INTERNATIONAL ASSEMBLY

The following resolutions affecting the Constitution and By-Laws of the International College of Surgeons have been adopted by the International Board of Trustees and will be presented for final approval to the House of Delegates at the Fifth International Assembly, in Lima, Peru.

I. That physicians devoting their entire time to Anesthesiology, Roentgenology or Pathology, who are recognized specialists, be granted upon presentation of proper credentials and upon proper election the title of *Associate Fellow* in their respective specialty.

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II. That Article IX, Paragraph 3, of the Constitution of the International College of Surgeons be revised to read as follows:

> Chapters other than the United States Chapter of the International College of Surgeons shall decide the amounts which they are to contribute to the International Treasury annually, provided that the contribution of each Chapter during the war period or other emergency shall be sufficient to defray its annual subscription to the JOURNAL OF THE INTERNATIONAL COLLEGE OF SURGEONS, the cost of diplomas for its own members, and other incidental expenses to which the central organization is subjected in relation to such Chapter, until such time as the Chapter in question can fully meet its financial obligations as outlined in the International Constitution and By-Laws.

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III. That Article XX, Paragraph 1, of the Constitution of the International College of Surgeons be amended to read:

(Continued on page 232)

Dermoplasty of Healed Burned Dorsum of the Hand

MAJOR JOHN F. PICK, F.I.C.S.*
MEDICAL CORPS, ARMY OF THE UNITED STATES

THE reconstruction of the healed burned hand is one of the major problems of this war. The most frequently burned portion of the hand is its dorsum. The reason for this frequent occurrence is that when the soldier in battle or accident is exposed to flame or explosion he reflexly reaches for his face to protect it from injury. The back of the hand is thus the receptor of an insult which otherwise would blind or deface the victim (fig. 1).

The degree to which the back of the hand is burned determines in large measure the degree of the loss of function of the part. This may range anywhere from partial interference with flexion to a "frozen hand" (fig. 2). This is an extremity which after healing has taken place has a scarred dorsum, is extremely sensitive to changes in temperature, is vulnerable to the slightest trauma, has little or no grasping ability, and may be angry looking and unsightly to behold (fig. 3).

The hand being the most useful appendage of man, a complex, delicate and subtle machine, injury to it can produce relative invalidism of the whole individual. Without the use of his hands *man becomes almost helpless, for they* are not only grasping organs but instruments of expression, accomplishment

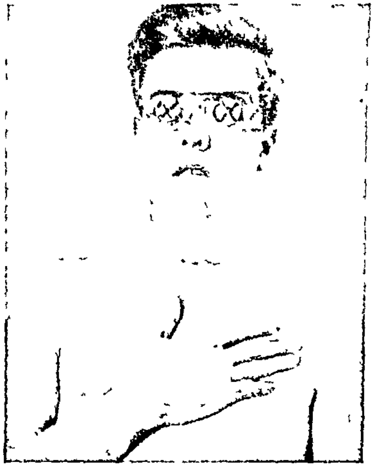

Fig. 1. Patient who saved his eyes by covering them with his hand, with a resulting burn of the dorsum of the hand and the unprotected neck.

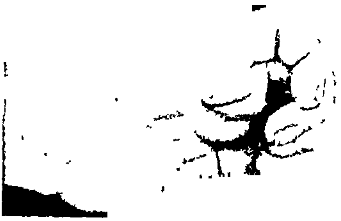

Fig. 2. Maximum amount of flexion of a hand whose dorsum was severely burned, with "freezing" of the extensor tendons.

Presented at a study guild meeting (District 5) of the International College of Surgeons, Birmingham, Ala., Feb. 22, 1945.

* Formerly on the surgical staff, The University of Illinois Medical School, Chicago, Illinois.

and, most of all, feeling. It would be difficult to conceive of a Paganini, a Liszt, a Houdini or a Helen Keller without hands. It therefore becomes imperative to do all that is possible to restore an injured extremity to as near its original state as possible.

The deformity resulting from a burned dorsum of the hand is currently and as a rule remedied by total excision of the scarred skin and fibrotic subcutaneous tissue and covering the remaining surgical defect with a split skin graft. That as a rule fairly well resolves the immediate problem—the restoration of flexion. The latter, however, though important, is but one of the many functions of the hand. Without overlooking the immense contribution which the split graft has brought to clinical surgery, particularly in treatment of extensive burns, its limitations must be recognized, to avoid abuse of a good thing. The routine use of the split skin graft does not always rehabilitate the burned hand completely, because it has certain inherent limitations which occasionally stand permanently in the way of the total reclaiming of the extremity. Like any free graft, it is a physiologic patch and sometimes only a biologic dressing (fig. 4). From the moment it is severed from the body economy, certain irremediable, microscopic as well as gross changes begin to take place. They may be inconsequential. More often they lead to pigmentation, subcutaneous scarring, loss of elasticity or permanent loss of color. Since the hand is such an obvious exposed part of the person, any one of the aforementioned factors explain the concern on the part of many young soldier patients over the obviousness of their hands, in spite of the fact that they are well functioning appendages after having been repaired with split grafts. No young man in contemplating his future, his postwar search for a job or his return to his

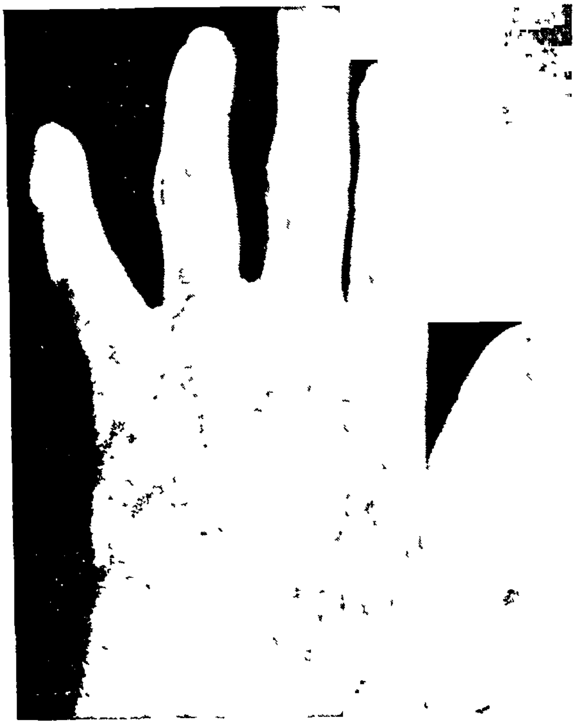

Fig. 3. Close-up view of a hand with a healed burned dorsum (ten months after the injury), illustrating conspicuousness of the extremity, scarring and unsightliness.

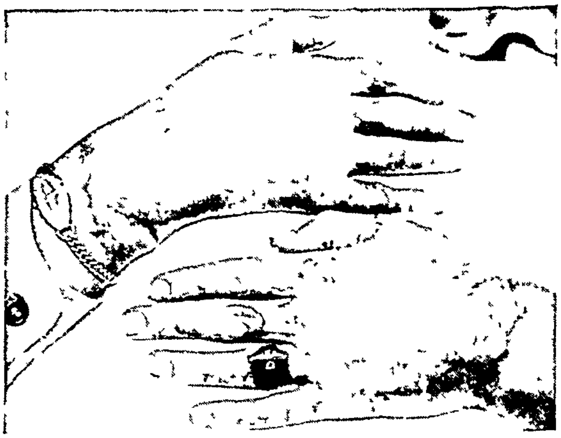

Fig. 4. Hands of a 23-year old soldier repaired with split skin grafts (one year after the operation). The grafts used were 20/1,000 inch (0.05 cm.) thick. The pigmentation is obvious and complete. Pseudokeloids about the edges in the region of the wrists and the middle fingers can be seen. The "glovelike" patched appearance of the hands in this case is the outstanding objection. The hands are functionally good, but are esthetically and socially objectionable.

intended one, is going to be pleased with ultimate results of an operation which herald his approach or appearance. Though the functional problem may well have been solved, in the young the psychologic problem has not been. The ultimate import of the latter may even overshadow the former and become a matter of sociologic concern. As for my part, I have been on many occasions impressed with its reality.

Where, then, lies the answer? To me it lies in the fact that there is no substitute for normal anatomy. I feel so strongly about that, that it has become a principle and an ideal toward which to strive. Since the split free skin graft is essentially the product of human ingenuity rather than an adequate anatomic replacement, one must then, in order to attain normalcy, strive to replace the loss by its equivalent. The nearest approach to the ideal normal is the dorsal skin and subcutaneous tissue of the forearm. The technical surgical problem therefore resolves itself into transporting this under as ideal conditions as possible to the dorsum of the hand.

SURGICAL PROCEDURE

Whatever the reason for the loss of the skin of the dorsum, whether it be due to a burn or a neoplasm (fig. 5), the restitution can be more fully attained by the following method:

After excision of the affected dorsal surface of the hand, two roughly parallel incisions are made extending onto the dorsum of the forearm as far as necessary and consistent with the principles covering a pedicle graft (fig. 6). This outlined flap is then carefully undermined, its scant subcutaneous tissue being taken with it (fig. 7). More often than not, if the incisions have been made to the proper depth, the skin being normally loose over the forearm, the flap can be elevated by undermining it with the gloved finger of the surgeon. The loosening of the flap from the forearm permits one to advance it anywhere from 1½ to 2 inches (3.8 to 5 cm) distalward (fig. 8). If the hand is then dorsiflexed at the wrist, another 1 to 1½ inches (2.5 to 3.8 cm.) may be gained in the advancement. Hence an excision

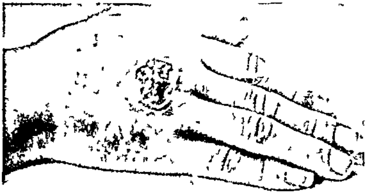

Fig 5 Epithelioma of the back of the hand of two years' duration treated with radium and x rays but never completely healed The original extent of the lesion can be detected by the scarring proximal to it for a distance of 2 inches (5 cm.) Excision included both the lesion and the scarred areas (see figures 6, 7 and 8, showing a triangular piece of scarred dorsum still in place and outlined feebly by brilliant green, and figures 9, 12 and 13, depicting the result ten months after the operation)

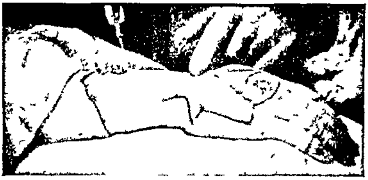

Fig 6 [illegible] epithelioma outlined [illegible] rea proximal to it is [illegible] radium and x ray treatment had been given for two years A flap from the ulnar side of the forearm is indicated Note that the incision skirts the head of the ulna to avoid producing a scar over the bone Also note the wedgelike palmar deviation of the flap to permit normal creasing of the wrist later and avoid lineal contracture The needles in the dorsum of the forearm are for the infiltration of procaine hydrochloride solution and are incidentally placed at about the point to which the undermining of the flap will proceed The patient's fingers are covered by rubber cots up to 3½ inches (9 cm.) from the dorsum of the hand can be made and covered with the nearest possible anatomic equivalent. The dorsum of the hand of an average male adult is seldom over 3½ inches. Even so, when complete excision has to be done and when the quality of the circulation in the skin may not be equal to the task, it is advisable to practice "delay" in the removal of the flap. Such a decision naturally is a matter of surgical judgment and experience. In such a radical procedure, it is better first to mobilize the forearm flap and investigate its integrity before excising the affected dorsum of the hand and advancing the skin of the forearm onto it.

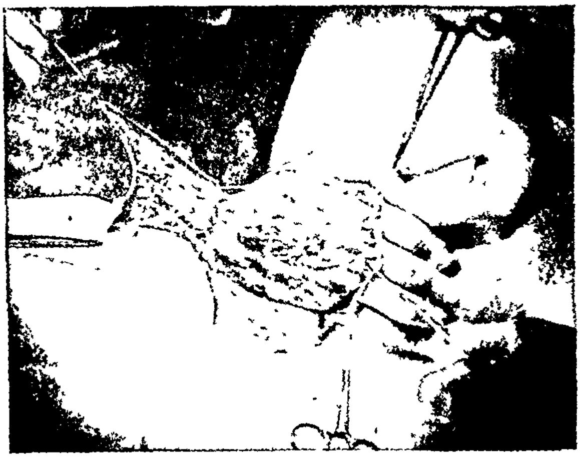

Fig. 7. The flap dissected back to the forearm after excision of the neoplastic ulcer. Skin and subcutaneous tissue of the forearm are ready to be undermined. Note that distally the skin of the webs has also been undermined so as to reform a normal angle of incidence of the webs with the palmar folds.

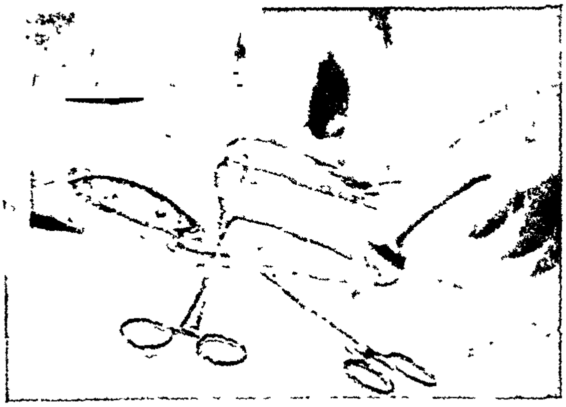

Fig. 8. The flap mobilized and advanced to reach the webs of the fingers. The proximal portion of the flap is already advanced and sutured about the wrist. A triangular piece of scar tissue is about to be excised. Excision of scars should be postponed, if possible, until all else has been accomplished, for the scar serves as good traction surface and when at last excised leaves a fresh, untraumatized skin edge.

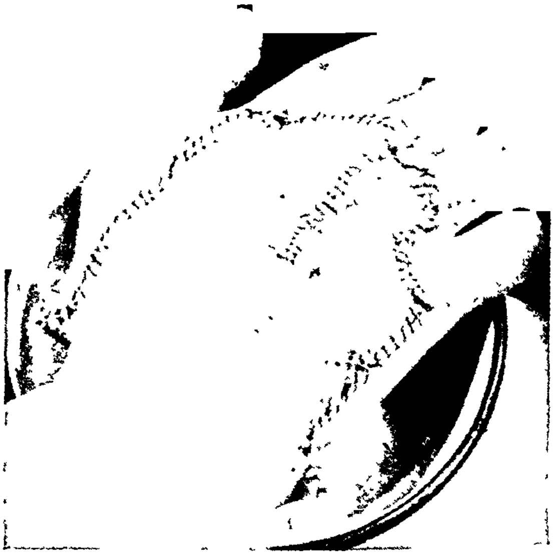

Fig. 9. The central dorsal scar has been excised, the two distal extremities of the flap approximated and the entire pedicle graft sutured over the dorsum. To the right of the proximal extremity of the central suture line is a small perforation for drainage. Two reinforcing mattress sutures are in place, tied over bits of gauze. When one is suturing the flap in place, it is well to pick up innocent underlying tissue now and then, so as to prevent the graft from shifting on its edges. Nipples of skin, one on each side of the wrist, result from crowding of the forearm skin onto the hand. These shrink rapidly or may be secondarily ablated.

The affected dorsum of the hand having once been excised and placed in dorsiflexion, the distal part of the flap is temporarily attached to each dorsal fold of the interdigital webs. Or, if the skin over the metacarpophalangeal joints was not excised, the flap is attached to the skin just proximal to the joints. At this point it must be emphasized that when one is excising the affected skin of the dorsum of the hand, the excision must be so planned that the resulting suture line is either somewhat proximal or somewhat distal to the metacarpophalangeal joints. This obviates the nuisance of a scar over a joint.

After the forearm flap has been temporarily attached to its predetermined distal position, with the hand in dorsiflexion, a temporary anchor suture is placed through the flap on each side of the wrist, approximating it to the concavity of the dorsum of the wrist (fig. 9). The entire flap is then permanently and completely sutured to the two sides of the extremity by either interrupted or continuous but "advancing" sutures. This opposes the tissues in proper tone and of course in the direction of greatest benefit, which is distalward.

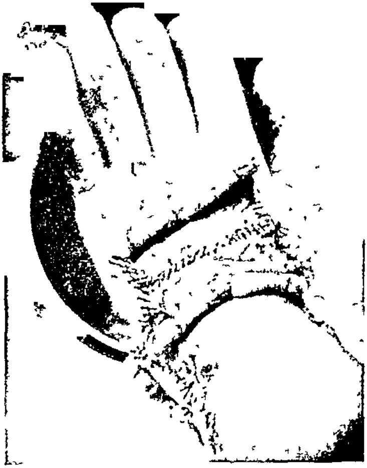

Fig 10 A hand in which the lesion or scar does not involve the metacarpophalangeal joints, so that a short additional distal flap can be combined with one from the forearm, with a resulting suture line like the letter "H" The use of petrolatum covered soft rubber tubes for mattress tension is also illustrated Note the relatively large amount of skin gained from *the finger webs after undermining*

After the entire area of the dorsum of the hand has been covered, three or four mattress sutures are placed through the skin now overlying the wrist and anchored to the underlying bed (fig. 10). These mattress sutures are then tied over a large soft rubber catheter or tube rolled in petrolatum gauze. The ends of the catheter may be loosely tied under the wrist, if desired. The object to be realized, whatever the method, is the obliteration of the dead space which unavoidably exists between the flap and the concave dorsum of the wrist once the distal end of the graft is anchored to the fingers. Should this detail be omitted, the flap would form the hypotenuse of a triangle, whose other two sides would be the distal portion of the forearm and the dorsum of the hand respectively.

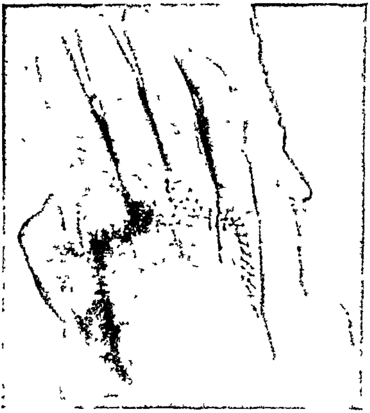

Fig 11 Immediate postoperative condition of the hand shown in figure 3 in position on a cock up splint, before the dressings were applied Note the three mattress sutures splinting the skin of the webs against the distal portion of the flap to keep the dorsal suture line from climbing onto the metacarpo phalangeal joints

The remainder of the operation consists of simply applying dressings appropriate for a pedicle flap and a cock-up splint which will maintain the hand in dorsiflexion for sixteen to twenty-one days (fig. 11).

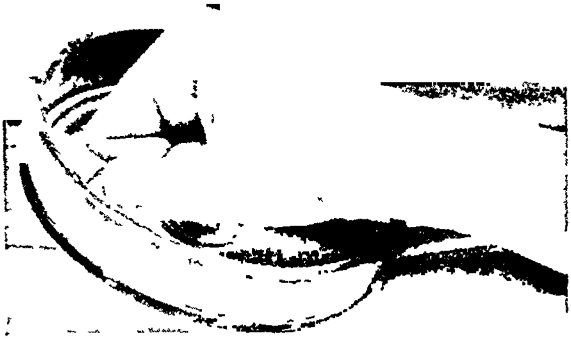

Fig. 12. Postoperative (three weeks) condition of the hand shown in figure 4. Flexion of fingers is almost complete. The proximal portion of the lateral incision is barely visible. The insertion of the glass object under the wrist represents the photographer's idea of eliminating a slight tremor of the wrist during the exposure.

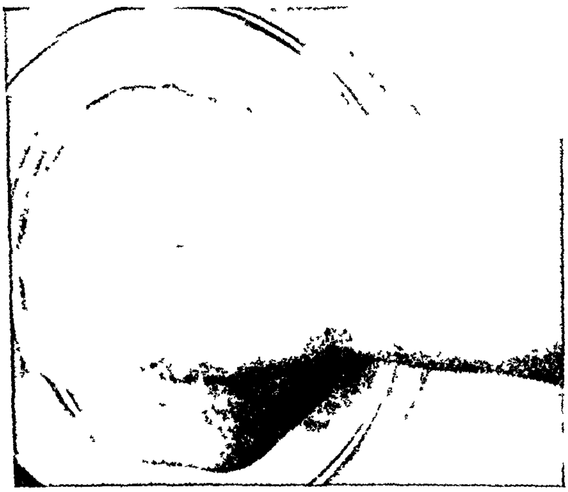

Fig. 13. Dorsum of the same hand shown in figure 12. The scar proximal to the metacarpophalangeal joints is only slightly visible. Note the hair from the wrist advanced with the flap to the dorsum of the hand.

POSTOPERATIVE TREATMENT

With the expiration of two weeks postoperatively, the cock-up splint should be removed every day, the hand and forearm properly cleansed and light passive flexion instituted to inaugurate the stretching of the skin over the wrist. Within a week, it will be found that the patient is able to project the hand on the forearm (fig. 12). Complete flexion at the wrist is still difficult and undesirable (fig. 13). It overstretches the dorsal suture line. At this point active and moderate use of the hand can be permitted. Within a week to ten days the patient is able without effort to flex the extremity at the wrist (fig. 14).

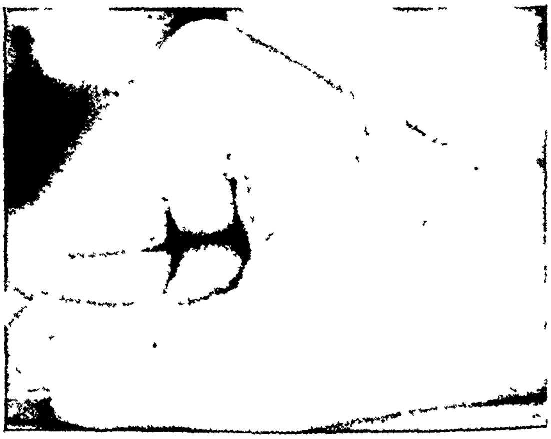

Fig. 14. Same hand as in figure 2, one month after the operation. Flexion is complete.

SUMMARY AND CONCLUSIONS

The new reconstructive surgical procedure that is submitted is thought to have in selected cases certain merit not realized by other methods. The basis of the procedure is the employment of a pedicle flap advanced from the forearm onto the dorsum of the hand after excision of the scarred tissue from the latter. By making two parallel incisions up the forearm, for a distance of one-half to two-thirds its length, mobilizing the skin and subcutaneous tissue between the incisions and placing the affected hand in complete dorsiflexion with complete extension of the digits, the tissue of the forearm can be advanced distalward to cover up to 3½ inches (9 cm.) of the dorsum of the hand.

This procedure obviates the employment of the commonly used split free graft and hence avoids the undesirable reactions frequently resulting from it, such as bronzing and other discolorations, a patched and conspicuous appearance of the hand, sensitivity to changes of temperature, and shrinkage of the graft with delayed interference with flexion of the fingers.

However, like any surgical procedure, this new operation has certain disadvantages:

1. An incision has to be projected for a variable distance on each side of the forearm.
2. The operation is not feasible for very young children, for very old people, or for patients with poor circulation or meager elasticity of the skin. These factors, of course, must be evaluated before the procedure is undertaken.
3. The more ideal results to be attained by this operation take a little longer to realize than the less ideal results obtained by the use of the split skin graft.
4. The procedure may resolve itself into a two stage operation when the integrity of the skin of the forearm does not permit a first stage advance. It does, however, obviate "borrowing from Peter to pay Paul"; that is, it does not leave a relatively scarred donor site, which is unavoidable in the taking of the split skin graft.

SUMARIO

El nuevo procedimiento quirúrgico de reconstrucción aquí sometido se acredita en casos escogidos y tiene mérito que no se obtiene con otros metodos.

La base del procedimiento es el empleo de una falda a pediculo formado del antebrazo hacia el aspecto dorsal de la mano, después de extirprar todo el tejido cicatricial. Haciendo dos incisiones paralelas sobre el antebrazo por una distancia de la mitad o dos terceras de la longitud del antebrazo, movilizando la piel y el tejido subcutaneo entre las incisiones y colocando la mano en completa dorsiflexión y extensión de los dedos, los tejidos del antebrazo pueden ser avanzados suficiente para cubrir 3½ pulgados (9 cm.) del dorsum de la mano.

Este procedimiento evita el uso del injerto (partido) livre y por consiguiente evita los reacciónes adversos, tal como descoloramientos a bronce y otros colores que por contraste atraen atención, sensibilidad a los cambios de temperatura, y encogimiento del injerto, con retardo de la flexión de los dedos.

Como muchos procedimientos quirúrgicos, esta nueva operación tiene ciertas desventajas:

1. La incisión es porjectada por distancias variables en cada lado del antebrazo.
2. La operación no es factible en la juventud, en los de edad avanzada y en pacientes con debil circulación o poca elasticidad de la piel.
3. Los resultados más ideales obtenibles por esta operación necesitan mayor tiempo para realizar que los resultados menos satisfactorios con el uso del injerto de piel partida.
4. Este procedimiento podrá ser resuelto en dos periodos cuando la integridad de la piel del antebrazo no permite una operación de adelanto en primer periodo. Esto sin embargo evita el prestar de Pedro para pagar a Paulo; esto es, no deja una cicatriz en el donador, lo que es inevitable cuando se usa el injerto partido de piel.

SOMMAIRE

La procédure nouvelle de chirurgie reconstructive que l'auteur nous présente offre dans certains cas des avan-

tages que ne réalisent pas d'autres méthodes. La base de la méthode est l'emploi d'un lambeau pédiculé avancé de l'avant-bras sur le dos de la main après l'enlèvement du tissu cicatriciel de celle-ci. En faisant deux incisions parallèles sur l'avant-bras de la moitié ou de deux tiers de sa longueur, on mobilise le peau et le tissue souscutané entre les incisions. On met la main affectée en dorsiflexion complète avec complete extension des doigts. Le tissu de l'avant-bras est avancé afin de couvrir 3½ pouces (9 cm.) du dos de la main.

Par ce procédé, on évite l'emploi de greffons coupés et aussi les réactions non désirables qui souvent résultent de leur emploi: telles que la discoloration, l'apparence cicatriciel désagréablé, la sensibilité aux changeménts de température, et le retrécissement du greffon avec interférence retardée de la flexion des doigts.

Néanmoins, cette opération a certains désavantages:

1. L'incision doit être projetée sur chaque côté de l'avant-bras.
2. L'opération n'est pas faisable chez les jeunes enfants, chez les viellards, chez les malades de circulation appauvrie et chez ceux de pauvre élasticité de la peau. Avant d'entreprendre cette procédure, ces facteurs demandent à être considérés.
3. Les résultats obtenus par cette méthode entraînent plus de temps et de soins que ceux qui resultent des anciennes méthodes.
4. On peut faire l'opération en deux temps, quand l'intégrité de la peau de l'avant-bras ne permet pas un avancement au premier temps. Cette procédure ne laisse pas de cicatrice disgacieuse.

СВОД И ЗАКЛЮЧЕНИЯ

Предлагается новый реконструкционный хирургический метод, который в специальных случаях может дать некоторое преимущество недостижимое другими способами.

Основа этого метода заключается в употреблении висящего лоскута, перемещенного с предплечья на тыл ладони после удаления рубцевой ткани.

Делаются два параллельных надреза от тыла ладони до половины или двух третей предплечья; кожа и подкожный слой между надрезами освобождается для мобильности; пораженная рука помещается в полную дорсифлексию с пальцами совершенно выпрямленными; кожа предплечья перемещенная дистально может теперь покрыть 9 сантиметров *тыла руки*.

Этот способ делает ненужным употребление обыкновенного надрезанного и свободного кожного трансплантата, и, таким образом, избегает нежелательные результаты, часто получающиеся при последнем методе: бронзировка и обесцвечивание кожи, заплатанный и бросающийся в глаза вид руки, чувствительность к переменам температуры, котрактура трансплантата, которая позже мешает свободному сгибанию пальцев. Однако, как всякий хирургический метод, этот новый способ имеет некоторые недостатки:

1. Расстояние обосторонних надрезов предплечья непостоянное.
2. Операция эта не годится для очень маленьких детей, старых людей или для больных с плохим кровообращением и малой эластичностью кожи. Эти факторы необходимо взвесить до предпринимания операции.
3. Хотя результаты более идеальны, они требуют больше времени, чем менее идеальные результаты, достигающиеся при обыкновенном методе надрезанного кожного лоскута.
4. Когда качество кожи не позволяет одностажное перемещение кожи, то двухстажная операция становится необходимой. Но зато не нужно «одолжить у Петра, чтобы заплатить Павлу», т. е. этот метод не оставляет очень зарубцованную донорную площадь, которая неизбежна при употреблении надрезанного кожного лоскута.

Use of Single Massive Doses of Sulfonamide Compounds

A Preliminary Report

BENJAMIN I GOLDEN M D F A C S F I C S
and
SEYMOUR W MEYER M D
ELKINS W VA

IN a previous article by one of us (B I G),[1] scientific evidence was presented to demonstrate the rate of absorption of sulfanilamide (chosen as a typical sulfonamide compound) from various cavities of the body and under varying pathologic conditions This communication is to further the discussion relative to treatment with sulfonamide compounds, with comment on the rationale of their administration During the preparation of the original article our attention was attracted to certain observations which to the best of our knowledge had not been previously publicized (1) that the presence of a sulfonamide drug apparently produced an early attenuation of the pathogenic organism,[2] (2) that the organism apparently could become resistant to sulfonamide compounds very rapidly, and (3) that continuous administration of the drug might produce a clinical picture which could mask the pathologic process present[3] In our own clinical observations, especially in peritonitis, we found that one large massive implantation of a sulfonamide compound in the abdomen produced as good results as those reported by other observers who after such an application continued to give the drug by mouth or parenterally These observations led us to the conclusion that there were probably certain factors in the administration of these drugs which had not been given sufficient attention After several years now, we see no reason to change our original plan of using single massive abdominal instillations for peritonitis We believe our results are as good as and maybe a little better than those reported after continuous administration

Our patients at times have shown a temporary reaction to chemotherapy, never serious In the main, their response has been prompt, their toxemia has been controlled and their recovery has been extremely rapid From these observations we have drawn the following hypothesis relative to chemotherapy with sulfonamide compounds The greatest effect is attained by a massive, rapid, overwhelming assault on the invading organism without an undue disturbance of the normal mechanisms of defense In other words, the attack may be likened unto the present tactical approach of the so called blitz in warfare While the actual mechanism of the action of the sulfonamide drugs in vivo is not completely clear, it has been assumed that it has to deal, directly or indirectly, with the pabulum on which bacteria feed, and that the actual de

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From the Department of Surgery, The Golden Clinic

Presented at the Ninth Annual Assembly of the United States Chapter of the International College of Surgeons Philadelphia Pa October 1944 struction of the organism is still due to native defenses. From the bacteriologic standpoint there are few organisms which can withstand decided changes in their habitat for any length of time, provided they are not afforded a sufficient period for involution or the development of a protective mechanism. In this respect it was interesting to note that when we treated patients with early stages of gonorrhea, in whom the infection was primary, one, and occasionally two, closely repeated massive doses of a sulfonamide compound completely eradicated the disease as far as any clinical evidence could be obtained and these patients stayed "cured." On the other hand, failure to obtain clinical results suggested that the present infection was a reinfection or the patient had previously been given chemotherapy or that a long period had elapsed between the knowledge of the onset and the time of beginning treatment. This was likewise found true in cases of salpingitis and of puerperal septicemia.

In keeping with our hypothesis and these findings, the successful use of chemotherapy with sulfonamide compounds is a matter of introducing a high concentration, early, at the site of bacterial invasion. It is our opinion that the original idea of maintaining a certain blood level is based on a false premise. There is a great difference between the level in the circulating blood and the level in the localized involved tissue. It was interesting to note, in our previous work with absorption from the peritoneal cavity, that the nearer normal the peritoneal cavity, the higher the blood level. On close examination of this statement, one realizes that the relation is self-evident. The more edematous the tissue, the greater the reduction in circulation to, and permeability of, the cell. Therefore, the level of the drug in the circulating blood can bear no relation to the level in the involved tissue because of this disturbed physiology.

The problem of reactions to sulfonamide compounds must be given serious consideration. When the massive single dose was first suggested by the surgical department, the other members of the clinic were fearful of the results. However, the surgical department had had ample opportunity to study the reactions to the massive dose from the instillations in the abdominal cavity. As far as we know, there have been no words of admonition published on the limited use of abdominal implantations; rather, it has been emphasized, and there seems to be a growing opinion among surgeons, that the dose frequently is too small, and the tendency is now to increase the amount. We have found that a child of 8 or 9 years handles 150 grains (9 Gm.) of sulfanilamide as well as the adult of 30 or 40. In other words, the surgeon is actually doing, to a great measure, the very thing we are advocating. It is not a question of age, weight or general physical condition, but rather one concerning the severity of the invasion and the amount of drug necessary to act on it. Originally, we were of the opinion that it was the basic sulfonamide radical which carried the therapeutic value. This has been changed. In several cases in which a massive dose of sulfanilamide was given, there was no improvement to the patient. Forty-eight hours later, a repeat dose of sulfathiazole or sulfadiazine brought an immediate and permanent improvement. The presented technic offers another advantage. By the single massive dose, information as to the specificity of the drug is immediately obtained. The loss of time is short, and the debility of the patient is not allowed to proceed to a critical stage before a shift to another drug can be made We do not hesitate to repeat a massive dose in eighteen to twenty four hours if another derivative is indicated

The next problem to be considered is the untoward reactions Occasionally we see a slight body rash Frequently we find the patient drowsy and slow in mental reaction for twenty four hours We have not been able to determine how much of this is due to the 2 ounces (60 cc) of camphorated tincture of opium administered to prevent nausea and vomiting and how much may be attributed to the drug In a large number of patients we have had but 1 that showed a marked psychosis This patient had had a previous admission, three months before, and the usual homeopathic administration of a sulfonamide drug had been instituted The record shows that she acquired a psychosis at that time The diagnosis was "a questionable low grade pelvic pathology " The doctor in charge at the patient's first admission had since entered military service When she was readmitted, with the same complaints, under the pressure produced by shortage of manpower insufficient attention was paid to her and a massive dose of a sulfonamide compound was ordered A marked psychosis promptly developed, which lasted three days This case emphasized to us the value of not superimposing a massive dose when the patient within a reasonable period has had prolonged therapy with a sulfonamide compound or when there is a history of untoward reactions Another factor which was quickly demonstrated was that, while the massive dose rapidly brought about a clinical cure, the patient must be given sufficient rest in bed to overcome a physiologic problem brought about by such chemotherapy Patients treated in this way are weak for several days When placed on their feet, many manifest a dizziness which takes some time to overcome We found that the patients with gonorrhea could not safely drive an automobile or successfully use a typewriter for five to seven days following the administration of the drug

It has been necessary for us to make our own yardstick for the so called "massive dose therapy " Since we found that 150 grains (9 Gm) of sulfanilamide proved satisfactory in the abdomen, we adopted this as our unit This amount, of course, produces nausea and vomiting in many cases From numerous experimental attempts, camphorated tincture of opium was found to be the most satisfactory drug to alleviate these reactions Today, our technic is as follows Two ounces (60 cc) of camphorated tincture of opium is given in a small amount of water, and one half hour later half of the predetermined dose of the sulfonamide compound is given, one half hour later, the remaining half is administered We believe, from experience, that if there is a toxic limit to the dose of a sulfonamide compound, the dose we use is well under that limit We have seen no serious change in blood counts The first case of fatal agranulocytosis from a single abdominal instillation has just been reported elsewhere[4] We have seen no serious changes in the red cells or in the hemoglobin To the best of our knowledge, there has been no active or residual urinary problem In connection with dose tolerance, we would cite the case of a woman in her early twenties for whom we made the original diagnosis of acute salpingitis She presented a picture of an extremely ill patient of several days' duration, markedly dehydrated, the anterior abdominal wall was resistant but not rigid She was admitted to the hospital at 3 o'clock in the afternoon, and a massive dose of sulfanilamide was administered. At 9 the next morning we were able to determine that there was a mass in the right lower quadrant of the abdomen and unquestionably an active peritonitis. At 10 the abdomen was opened and the diagnosis of peritonitis confirmed. She had a perforated appendix, an abdomen filled with fluid giving off a colon odor and all the picture of a generalized peritonitis due to a perforated appendix. Without hesitation, 150 grains (9 Gm.) of sulfanilamide was implanted and the abdomen closed without drainage. With one exception this patient presented the most cyanosis we have ever seen resulting from a sulfonamide compound. For eight hours postoperatively she was unable to retain food, and this occurred periodically during the next twenty-four hours, though she received a tray at each mealtime. One week later the wound broke down and there was a profuse discharge of pus, but she made a convalescence meriting no particular consideration.

Within recent weeks we encountered a general peritonitis in a child 3 years old. On admission the child was extremely toxic, distended, lethargic and apparently desperately ill. The abdomen contained a gangrenous appendix with generalized peritonitis. One hundred and fifty grains (9 Gm.) of sulfanilamide was placed in the abdomen before closure. Forty-eight hours postoperatively the patient was extremely cyanotic and in a lethargic condition. For once, we felt we had overdone our sulfanilamide therapy. In our anxiety to speed the operative procedure and get the child back to bed, note was not made of the condition of the peritoneum, both parietal and visceral. Had we paid sufficient attention, we probably should have noted that the peritoneum was nearly normal in appearance and, with this in mind, we should have reduced the amount of the drug instilled, because, as stated previously, the nearer normal the peritoneum the greater the absorption. Incidentally, the little fellow progressed nicely for one week; then a visitor to the ward gave him a nickel, which he promptly swallowed and which remained in the antrum of the stomach for twenty-four hours, bothering the patient not at all but giving the surgeon a headache. However, this passed without complication. A superficial incisional abscess developed, but on evacuation healed promptly.

Because these patients were very sick and to make continuous venous punctures to satisfy our curiosity about the blood level of sulfanilamide seemed unfair, it was not done. In spite of frequent statements that blood levels reach their peak within a definite period after the ingestion of the drug, the results of our studies on normal persons to date definitely refute this observation. In a study now being carried out by one of us (S.W.M.) it has been noted that there is no specific relation between the time of ingestion and the time of the highest percentage level in the blood of normal people. The interval can range from six to twenty-seven hours or longer. This raises the question of time of administration, condition of the stomach with reference to food and starvation, fluid level in the tissues and many other points which are now being explored. Possibly the most interesting finding to date is that there is a varying relationship between the free and the acetylated drug at varying periods. Beyond this, for the present at least, we refrain from making any further comment, but we hope to publish these facts in the near future.

We herewith describe the clinical picture of a few cases which we think are of interest with regard to the administration of massive doses of sulfonamide compounds

REPORT OF CASES

CASE 1—The diagnosis was pyometrium following incomplete abortion The patient's temperature on admission was 104° F With the aid of light nitrous oxide anesthesia, the cervix was dilated, and the uterine cavity was swabbed out with a sponge The postoperative temperature was 105° F One hundred and fifty grains (9 Gm) of sulfanilamide was given by mouth After twenty four hours the temperature was 99 4° F After forty eight hours it was normal The patient was discharged well five days after admission

The operative procedure in this case can be questioned Had an attempt been made to saturate the patient there would have been (*a*) a delay and (*b*) a possible resistance to sulfonamide compounds set up by the invading organisms Neither condition would have been good for the patient From past experience with this type of infection, we knew that either sulfanilamide or sulfathiazole would take care of the infection By the massive dose procedure the proper drug would be determined within hours The effect of a change of drug has been dramatically demonstrated on several occasions

CASE 2—The patient was delivered of a macerated stillborn fetus at full term Her serologic reaction for syphilis was positive For eight days postpartum she had spiking of temperature to 101° F After she was given 150 grains (9 Gm) of sulfathiazole the highest temperature was 99 4° F, twenty four hours later Four days after receiving the drug she was discharged, free of all clinical evidence of infection

Here is demonstrated the clearcut action of the single dose after sufficient time had elapsed to show that the low grade infection would remain persistent for some time

CASE 3—The diagnosis was meningococcic meningitis The spinal fluid on the patient's admission to the hospital was cloudy and revealed meningococci The patient was moderately delirious Her axillary temperature was 102° F She was able to take 150 grains (9 Gm) of sulfadiazine by mouth After eighteen hours, the temperature was normal, and the patient was mentally clear and had no headache After twenty four hours, the oral temperature had risen to 100 2° F Another dose of 150 grains (9 Gm) of sulfadiazine was given After forty eight hours the spinal fluid was clear, and smear and culture failed to reveal meningococci Fifteen grains (0 9 Gm) of sulfadiazine was given every four hours for twenty four hours The patient was discharged twelve days after admission Follow up examinations showed no residual problems

The response in this case was extremely rapid and the spinal fluid promptly showed that the invading organisms were destroyed The rebound rise in temperature may have been caused by absorption due to the massive invasion However, when one is dealing with human beings one dare not be over zealous with experimental science, and in this case the small doses, whether necessary or not, were given to combat the temperature reaction

CASE 4—The diagnosis was meningococcic meningitis On admission to the hospital the patient was irrational and almost moribund A spinal puncture was made with the aid of general anesthesia The fluid was cloudy, meningococci were revealed by culture, though not by smear The patient was given 112½ grains (6 75 Gm) of sodium sulfadiazine intravenously Forty eight hours later 150 grains (9 Gm) of sulfadiazine was administered orally After forty eight hours the spinal fluid was clear but coagulated The patient was discharged as normal nine days after admission. There were no urinary complications.

In view of the seriousness of the condition on the patient's admission, a massive dose of sodium sulfadiazine was given intravenously. This was not followed by any demonstrable clinical reaction. This brings up a question to be answered in the future. Are the reactions to such drugs due to the total dose or only to the unused portion that is not needed to combat the pathologic condition? Again human experimentation does not permit a great latitude. It is possible that the second dose was not necessary.

Case 5.—The diagnosis was acute salpingitis. The patient's temperature on her admission to the hospital was 101.4° F. One hundred and fifty grains (9 Gm.) of sulfanilamide was given. Not until seventy-two hours had elapsed did the temperature reach normal. It stayed normal thereafter.

This case demonstrates the fact that all patients do not respond dramatically. Whether this is due to slow absorption, which is being studied in normal persons, to resistance of the invading organisms to sulfonamide compounds or to local changes in the tissues that inhibit or delay saturation is a question to be answered in the future. But it must be kept in mind that there can be a delayed reaction and that the physician, provided the condition of the patient warrants it, must not be too energetic.

Case 6.—The diagnosis was acute exacerbation of a chronic pelvic inflammatory disease. Under observation the temperature increased to 102.8° F. One hundred and fifty grains (9 Gm.) of sulfanilamide was administered by mouth. In twenty-four hours the temperature was normal and the patient was free of tenderness in the lower part of the abdomen.

Here is a definite history borne out by subsequent findings of organized pathologic changes over a long period of time. Yet, in contradistinction to case 5, the results were prompt.

Case 7.—The diagnosis was postpartum septicemia (home delivery). Chills and fever began forty-eight hours after the delivery. On the patient's admission to the hospital, five days postpartum, her temperature was 104.6° F. She was given 150 grains (9 Gm.) of sulfathiazole. The highest subsequent temperature reading, twenty-four hours later, was 99.4° F. She was discharged as cured eight days after her admission.

On admission there were marked thickening of the left broad ligament, induration and palpable dulness in the lower left abdominal quadrant above Poupart's ligament. The impression was that an abscess was developing. This condition promptly cleared up with the improvement of the clinical picture. We have seen this repeatedly in cases of acute salpingitis in which tubes were definitely palpable but in which the pathologic changes resolved after administration of a sulfonamide compound and at later operative intervention for some other cause the pelvis was found to be normal and there were no adhesions or only a few non-symptom-producing ones.

Case 8.—The diagnosis was acute exacerbation of an old pelvic inflammatory disease complicated with arthritis. The duration of the present acute illness was ten days. The chronic condition had been present for ten years. The patient's temperature on her admission to the hospital was 104° F. She was given 150 grains (9 Gm.) of sulfathiazole, but forty-eight hours later there was no improvement. She was then given 150 grains of sulfanilamide. After the administration of the latter drug there was considerable improvement in the clinical picture for five days. Then the pain and discomfort returned, and the temperature increased to 102° F. It was decided not to attempt further therapy with sulfonamide compounds, and 200,000 units of penicillin was given. This brought prompt and lasting improvement.

This case definitely illustrates the latitude this therapeutic technic gives. Within a period of seven days the value of the sulfonamide compound was evaluated and penicillin was given.

COMMENT AND CONCLUSION

The physician must ever keep in mind that, with few exceptions, therapy is only an adjunct to normal body defenses. This has been ably expressed by Dr. Alexander A. Bogomolets,[5] "Clinical therapy (chemical, physical, surgical) directed toward the destruction of the cause of the disease must simultaneously be, under all circumstances, a pathogenetic therapy, i.e., it must be directed toward supporting and strengthening those reactions of the body which provide the best obstacles for the development of any given disease. The healing power of the nature of the body—vis medicatrix naturae—which was always the best ally of both patient and physician in their fight against disease, requires the deepest study. The chief task of clinical medicine is to learn to control this power."

CONCLUSION

This radical but sound procedure for the use of sulfonamide compounds in our hands has proved extremely satisfactory and worthy of continuation. There have been no untoward results, and we believe that the morbidity of this procedure is less than that observed with the usual present day method of continued periodic administration of small doses. We present these facts as a preliminary to further investigation, with the hope of stimulating the interest of other workers in studying the procedure.

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SUMARIO

La suministración de compuestos sulfonamidicos en dosis masivas y únicas es, según los autores, un método de quimiterapía radical pero seguro. En la experiencia de los autores este tratamiento se ha mostrado muy satisfactorio y digno de continuarse, como muestran los reportes de casos adjuntos. Los autores no han encontrado ningunos efectos adversos y creen que la morbidídad es menor con este procedimiento que cuando se usan dosis diarios. Este informe tiene por objeto estimular las investigaciones posteriores sobra el procedimiento.

RÉSUMÉ

Les auteurs sont d'avis que l'administration des composés sulfonamides en grandes doses est radicale mais qu'elle est aussi une méthode efficace de chémotherapie. Cette méthode est satisfaisante et se recommande par ses heureux résultats, ainsi que le démontre l'analyse des cas que rapportent les auteurs. Il n'y eut aucun incident désagréable. La morbidité de leur méthode d'emploi est moindre que celle des méthodes couramment employées. Cette communication est préliminaire à d'autres recherches. Elle a pour but d'encourager d'autres enquêteurs à étudier la méthode.

СВОД

По мнению авторов, применение сульфонамидов в одной массивной дозе является радикальной, но здравой химико-терапевтической методой.

По их опыту эта метода оказалась очень удовлетворительной и заслуживающей продолжения применения, как иллюстрировано доложенными случаями.

Неблагоприятных результатов не было. Они думают, что при этом способе неприятный эффект меньше, чем при теперешнем способе продолжительного применения.

Эти факты представлены предварительно до последующих изысканий и с надеждой возбудить изучение этой методы другими исследователями.

ACTIVITIES OF BOARD OF TRUSTEES

(Continued from page 216)

At the biennial meeting of the House of Delegates any article of the Constitution and By-Laws of the International College of Surgeons may be amended by a two-thirds vote of the delegates and officers registered at the meeting, provided that the resolution to effect the change shall be presented on the first day of the meeting of the House of Delegates, and final action taken on the last day of said meeting, and that a period of not less than twenty-four hours shall elapse between the time of presentation and the time of final ratification by vote of the House of Delegates.

* * * * *

IV. That Article X, Paragraph 1, of the By-Laws of the International College of Surgeons be changed to read as follows:

Any individual who shall be qualified for admission to any of the respective Chapters of the International College of Surgeons, as is otherwise herein provided, shall be entitled to such admission upon written application to the Chapter. The Chapter shall, according to its own rules, consider the application and determine its disposition. If it is decided to admit the applicant to membership, the secretary of the Chapter shall submit the application, together with the decision aforesaid, to the International Board of Trustees, who will admit or reject the applicant, which action shall be final.

* * * * *

V. That Article III of the Constitution of the International College of Surgeons be made to read as follows:

Section 1

Membership

The membership of the National Chapters shall consist of eight different classes of members:

1. Matriculate
2. Affiliate
3. Associate
4. Fellow
5. Associate Fellow in Anaesthesiology, Pathology, Roentgenology
6. Master
7. Emeritus
8. Patron

Section 2

1. Matriculates, Affiliates, Associates and Fellows shall be graduates of approved medical schools and universities, shall have served their internships, and shall be of unimpeachable moral and ethical character; this, together with their surgical training and capabilities, to be vouched for by at least three Fellows of the International College of Surgeons.

2. Each Chapter shall have the right to provide, in its Constitution and By-Laws, for the age requirements for admission to the various classes of membership, depending upon the exigencies and conditions of the country in which the Chapter exists. Also, the respective Credential and Examining Committees of the various Chapters shall have the right to pass upon the moral, ethical and professional qualifications of their candidates, provided, however, that the fundamental requirements, such as proper graduation, training, competency and ethical and moral character, are adequately met, and provided that all members admitted to the various Chapters are approved by the International Board of Trustees.

Section 3

When a candidate has successfully met the requirements set down by the Examining Board and Credential Committee of a given country and has been admitted to the respective Chapter, the name and grade of this candidate shall be transmitted by the Chapter to the International Board of Trustees for approval.

Section 4

Members of all grades must constantly exert their efforts to improve themselves in the art and science of surgery and to impart their experiences to others, and must attend the Guild meetings in their respective territories.

(Continued on page 281)

Cancer of the Colon

A Survey of Current Trends in Diagnosis and Treatment

MOSES BEHREND, M.D., F.A.C.S., F.I.C.S.
PHILADELPHIA, PA.

PRIMARILY, any operation of magnitude on the colon requires adequate preparation. It is now recognized that upon this depends the success or failure of an operation. The paramount consideration must be the proper balance of fluids in the body. A week or ten days should always be required for the preparation of the patient. Ample time is then given for consultation with the internist, for the number of laboratory examinations required, and for the proper use of the various other means available for bringing the patient to the highest degree of operability. The balance of the proteins and the total serum protein, the alkali reserve, the urea nitrogen, the blood sugar and the state of the urine must all be determined in advance. While all these laboratory tests are of great importance, it is also incumbent on the surgeon to place the colon in such a condition as to make the operation safe. This can be accomplished by the administration of succinylsulfathiazole (sulfasuxidine) in the dosage of 0.25 Gm. to each kilogram of body weight. The daily dose is then administered from this estimation. It has been proved by bacteriologic examination that the bacterial flora in the colon can be reduced from 100,000,000 to a field to 100. Penicillin (100,000 units) should be given at least three or four days before the operation and the same number of days after the operation, not for the purpose of affecting the colon bacillus but to prevent a mixed infection from pus germs. Estimation of the prothrombin time should always be made while a sulfonamide compound is being administered. It will often be found to be reduced, which will explain bleeding following operations on the colon. It is generally conceded now, with the use of succinylsulfathiazole, that it is not necessary to place the patient on a liquid diet. Daily colonic irrigations are not essential. With the use of this drug the contents of the bowel are reduced to a minimum. The same holds true if a low residue diet is allowed instead of an absolute liquid diet. When a liquid diet is used, orangeade, sweetened lemonade, tea and the various soft drinks, in addition to all kinds of clear soups, are given at two hour intervals. When necessary, daily blood transfusions are given. This is especially true when cancer affects the cecum and ascending colon. However, for selected patients in whom obstruction has been present and relieved, a liquid diet may be necessary in the preparation for operation. Again, daily colonic irrigations are of considerable benefit in the preparation of patients of this type.

From the services of Jewish and Mount Sinai Hospitals.

Read at a study guild meeting (District 5) of the International College of Surgeons, Birmingham, Ala., Feb. 22, 1945.

A complete blood count before operation is of vital importance, because many patients will be found to have a deficiency of red cells and hemoglobin. This is especially true of those in whom implantations of cancer are found in the cecum and ascending colon. The proper number of blood transfusions should be given until the patient becomes a good risk.

As the majority of cancers of the colon are found between the ages of 40 and 60, a cardiogram should always be taken.

AGE AND INCIDENCE

While cancer of the colon is no respector of age, the greatest number of growths are detected between the fourth and sixth decades of life. The youngest patient I ever operated on was 20 years old; the oldest, 82. Of far greater importance is the interval that exists between the inception of the symptoms and proper treatment. Too many patients are referred to the surgeon too late for remedial surgical procedures. The question often has been asked: How long does the patient have symptoms before he seeks advice, or before the physician recognizes the fact that some serious condition is present in the colon. There seems to be a difference of opinion on this score. Some surgeons say the average time before the patient reaches the surgeon is seven or eight months; others say a year, and some say even a year and a half to two years. On account of the silent symptoms and the ability of some patients to withstand discomfort, the average time for operation may be prolonged. There is no question that the ring-shaped type of carcinoma found in the descending colon may be present from one to two years. When the growth is in the rectum, where there is irritation from the characteristic lesion, usually an ulcer, the patient may apply for help sooner than when cancer affects other portions of the colon. With cancer of the cecum and ascending colon, prolonged treatment for a blood dyscrasia may postpone the operation for a long time. This is also essentially true in the splenic area.

AGE INCIDENCE

20 to 30 years	6
30 to 40 "	23
40 to 50 "	49
50 to 60 "	88
60 to 70 "	66
70 to 80 "	31
Total	263

SEX INCIDENCE

Male	129
Female	134
Total	263

LOCATION OF CANCER OF THE COLON

Why cancer should have a selected affinity for different locations in the colon is unknown. Why cancer should be multiple in the same patient is also unanswerable.

It is a fact that a simple rectal examination will disclose over 50 per cent of cancers affecting the colon. Curiously, many cancers are missed as a result of omission of this examination by the physician. On the other hand, the desire of the patient to hide symptoms may also result in delaying treatment. Notwithstanding the slower growth of cancer of the colon as compared with cancer in other parts of the body, delay may be prejudicial to the patient's ultimate recovery. Delay may result in extension of the cancer in continuity to adjacent organs. Delay may also result in metastases to other organs. In other words, the longer a cancer remains untreated, the greater will be the likelihood of an implant of cancer in distant organs, such as the liver, brain and spinal cord.

SYMPTOMS ACCORDING TO LOCATION

There is considerable variability in the experience of surgeons as to the first symptom leading to a diagnosis of cancer of the colon. The initial symptom depends somewhat on the portion of the colon affected and on the length of time the cancer is resident in the colon. Some lay particular stress on a change in bowel movement, such as diarrhea. In fact, some observers believe that diarrhea is the first symptom. Diarrhea with alternating constipation is in my experience a late symptom. As I review the cases in which I have operated, a sense of pain and discomfort seems to have been the first symptom. Unfortunately, a surgeon does not see the patients at the inception of the symptoms. Bleeding from the rectum may be early or late; in my experience it has usually been late. The passage of mucus is also a late symptom.

When cancer attacks the cecum and the ascending colon, it is a common observation that secondary anemia follows. In 2 cases referred to me, a diagnosis of pernicious anemia had been made. At this stage, such a diagnosis is unpardonable, because a mass can usually be felt. To illustrate this fact again, I recently operated on a man whose diagnosis of carcinoma of the sigmoid colon was not made until six weeks before the operation. It is now known that this patient started to have symptoms two years ago. At operation I found a huge cancer of the colon and a pathologic anastomosis between the ileum and the colon. The growth was removed, and an end to end anastomosis was made between ileum and ileum and colon and colon.

With cancer in the region of the transverse colon, the symptoms and blood picture are somewhat the same. When the growth is in the splenic flexure, the symptoms are more secretive than with cancer in any other part of the colon. Cancer of the splenic flexure is also the most difficult form of cancer to detect, even with the aid of the x-rays. More tumors are missed in this area than in any other portion of the colon. As a matter of fact, it is perfectly justifiable to perform an abdominal section if symptoms persist in this area without any confirmatory evidence. Increasing constipation should make one suspicious of cancer in the descending colon. Here one encounters the ring-shaped constricting type of growth. In the cases of older people, especially women, who have suffered regularly from constipation, it may be extremely difficult to make a diagnosis from this symptom alone. The first symptom may be intestinal obstruction. There should be no reason at all for not recognizing a cancer in the rectosigmoid junction or the rectum. A digital examination will confirm the diagnosis suggested by symptoms causing a change in bowel habits in this area. A cancer of the rectum, for a distance of 4 to 6 inches (10 to 15 cm.) from the anus, can be felt if the patient is put in various positions—on the back, on the side and in the knee-chest posture. The proctoscope and the sigmoidoscope should always be used when the growth cannot be felt digitally. The advantage of locating a tumor low in the colon gives one the opportunity to obtain material for biopsy.

ROENTGENOLOGIC DIAGNOSIS

Whenever a patient has vague intra-abdominal symptoms, one should suspect cancer. After a thorough physical examination, including palpation of the abdomen and a rectal examination, if nothing has been revealed, a roentgen examination should be made. This examination is of great diagnostic value, especially when cancer is present in an area of the colon above the rectum. (The examination is of no practical value for revealing cancer below the rectosigmoid junction, because 95 per cent of cancers of the rectum can be felt with the finger.) The most difficult cancer to detect with the x-rays is that in the splenic flexure. Sometimes a lateral or oblique view will bring to light a cancer that has been missed several times in examinations made with the *patient in the dorsal or prone position*. With cancer in other areas of the colon, diagnosis by means of roentgenograms is comparatively easy.

Under this heading may also be considered the effects of x-rays and radium on cancer of the colon. There is no justification for their use when the lesion can be removed surgically. As a matter of fact, surgical removal may be used even when there are minor metastases in the liver. Roentgen rays and radium have practically no beneficial therapeutic effect on cancer of the colon. These agents have been used on growths in stages with questionable benefit.

OPERATION

There are still too many patients being operated on for hemorrhoids who definitely have cancer of the colon. Just a few weeks ago, I operated on an elderly woman for cancer of the rectosigmoid junction. In addition, there was a contiguous implant on the uterus and bladder (figs. 1, 2 and 3). The patient had been operated on for hemorrhoids by a proctologist. While it may have been impossible to reach the tumor with a sigmoidoscope, still a careful analysis of the symptoms would have put the surgeon on the proper course. The history of this case is as follows:

C. K., a woman aged 65, was admitted to the medical department of the Jewish Hospital on September 1, 1944, and transferred to the surgical department on October 6.

At a previous admission, in April 1944, she was sent to the hospital by her family physician with a tentative diagnosis of cancer of the colon. At this time she complained of pain in the abdomen and discharge of mucus and blood from the rectum. These symptoms were disregarded, and roentgenograms were not taken. She was then operated on for hemorrhoids, without relief of her symptoms.

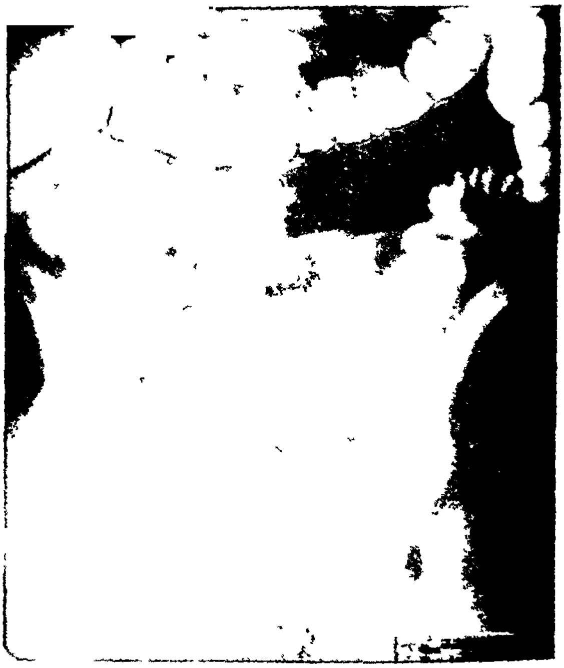

Fig. 1. C. K. was operated on for hemorrhoids three months before my operation. The roentgenogram shows a definite lesion (carcinoma) at the rectosigmoid junction.

When readmitted, on September 1, 1944, she said that the operation had not helped her, since she had had the same type of symptoms, namely tenesmus and bloody and mucous stools. About ten days previously she had begun to have difficulty with urination. She had pain originating around the iliac crests and radiating along the groin to the urethra. After urination, the sharp and cutting pain would subside.

On October 2, roentgenograms revealed

carcinoma of the lower end of the sigmoid flexure Operation was performed on October 14 When the abdomen was opened, the tumor at the rectosigmoid junction was found adherent to the uterus and urinary bladder The growth was separated from these organs Hysterectomy was performed followed by a plastic operation on the bladder and a one stage operation on the colon This consisted of an immediate resection of the tumor and an end to end anastomosis

The patient was discharged from the hospital on November 10

Pathologic Report—The main specimen consisted of 11 cm of the large bowel The entire length of the lumen was occupied by a polypoid hemorrhagic mass arising in the mucosa Areas of degeneration were noted There was gross evidence of infiltration into and through all coats of the intestine A specimen of uterus and ovary showed an area of ulceration and necrosis 4 cm in diameter in the fundus, this extended almost to the endometrial cavity The remainder of the uterus showed no abnormality The ovary was firm and fibrotic The tube was normal There was also a small portion of the wall of the bladder showing areas of ulceration and replacement by necrotic fungating tissue

Microscopic examination of a section of the tissue showed a number of abnormal epithelial cells having a papillary arrangement The tumor cells were well differentiated The nuclei were hyperchromatic Considerable necrosis and polymorphonuclear cells were present There was infiltration of the stroma by neoplastic cells A section of ovary showed a number of atrophic follicles The stroma was composed of fibrous tissue A section of uterus showed infiltration by carcinoma cells The myometrium was composed of bundles of involuntary muscle

The diagnosis was papillary carcinoma of the sigmoid flexure (grade II malignancy) with infiltration of the uterus and uterovesical fold

COLOSTOMY

Colostomy is not done as a preliminary operation as frequently as it used to be If the Wangensteen or the Miller-Abbott tube is successful in decompressing the gastrointestinal tract, then, after the use of succinylsulfathiazole, the patient may be properly prepared for a one stage operation In the use of decompression by such means, one should

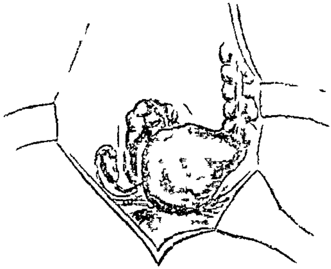

Fig 2 (C K) Carcinoma of the rectosigmoid junction in situ, attached to the uterus and urinary bladder

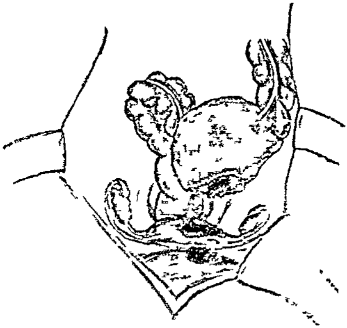

Fig 3 (C K) The lesion [illegible] and bladder

be cautious not to [illegible] too long, because [illegible] presents itself [illegible] saving measure

ONE STAGE VERSUS TWO STAGE OPERATION

For many years the Mikulicz operation, performed in several succeeding stages, was the procedure of vogue, whenever and wherever it could be performed. The results were good because, unquestionably, this is the safest method that one can use in operations for cancer of the colon, but the length of time, the uncleanliness between the stages and the hospitalization did not redound to the credit of this operation. With the use of succinylsulfathiazole, surgery of the colon, and of the rest of the intestinal tract, has been revolutionized. Take for instance the case already referred to. Here was a woman 65 years of age who would probably have been regarded as inoperable on the basis of the former methods of preoperative preparation. The danger in separation of the lesion of the colon from the uterus and the bladder was that a perforation might occur. But with the use of succinylsulfathiazole it did not matter if it occurred, because at the time the anastomosis was made the colon was practically empty. A little mucus was seen and no feces. Even if a perforation had occurred, the spilling contents would have been almost inert (according to the results of the bacteriologic studies which have been made concerning this drug and its use in colonic surgery). I could give many more instances of the beneficial uses of this drug, but let me refer the reader instead to other papers written on the subject and to be published in the future.

A one stage is preferable to a two stage procedure whenever one operates on the gastrointestinal tract. This is exemplified in operations for cancer of the head of the pancreas, for cancer of the cecum and ascending colon and for the correction of a gastrocolojejunal fistula. In the latter two instances, succinylsulfathiazole has permitted a change from a multiple operation to a single stage procedure. It seems unwise and unjust to the patient to subject him to a Mikulicz type of operation for cancer of the cecum or ascending colon. Here, with a fistulous tract from the ileum, the excoriation of the skin that results from the bowel contents should alone militate against the many stage operation. Again, the mass of adhesions that results between the first and the second stage operation is sometimes insurmountable in this area. The convalescence of the patient following a *one stage operation is patently superior* to that with a multiple stage procedure. After the one stage operation, the patient may leave the hospital in from ten days to two weeks, while with the multiple stage operation he may be hospitalized from six to eight weeks. In fact, the longest recorded period of hospitalization following the multiple stage operation was seventy-five days, whereas the shortest time of hospitalization following the one stage operation was ten days.

A one stage abdominoperineal operation is preferable now to a two stage Rankin or Lahey operation. In the one stage operation, the surgeon is working in "virgin soil," which enables him to remove the lesion in one sitting, whereas if the operation were done in two stages adhesions would render the operation much more dangerous. The convalescent period after a one stage operation is in marked contrast to two convalescent periods following a two stage operation. Furthermore, the knowledge that the patient must go through two operations is not pleasant. Another potent reason, aside from the mechanical difficulties, is that a one stage operation, when it can be performed, is always superior to any two stage procedure.

POSTOPERATIVE PERMANENT COLOSTOMY

There is among a group of physicians a strong psychologic factor which fairly often prevents the patient from receiving the proper remedial operation for cancer of the colon, especially when it attacks the rectum. I am cognizant of the fact that operations have been devised which preserve the sphincter. There are circumstances, however, in which these operations cannot be applied. It is then necessary to do the Miles one stage abdominoperineal operation. This naturally leaves the patient with a permanent colostomy. A permanent colostomy is not the inconvenience that one pictures in his mind. There are many patients who wear no receptacle at all and who can control their bowel movements to one a day. With attention to the diet and the formation of a one-movement-a-day habit, the colostomy is easily controlled. There are some patients who eat everything and, in addition, have made no change in their normal life. Most of the patients with a permanent colostomy have returned to their former occupations.

POSTOPERATIVE TREATMENT

Before any major abdominal operation, a Levine tube should be passed. After the operation the Wangensteen suction is utilized. A careful daily estimate of intake and output should be recorded. The fluids must be balanced, particularly after the operation. To do this, my associates and I employ, intravenously, dextrose in distilled water or saline solution, depending on the state of the kidneys. Lactate-Ringer (Hartmann's) solution is used when there is a deficiency of lactates, and isotonic solution of three chlorides U.S.P. (Ringer's solution) is of particular value in some instances. Five hundred cubic centimeters of blood or plasma is always ready in the operating room. After the operation we give as many transfusions as are essential. Amino acids, plasma, blood and red blood cells are used routinely for the purpose of preventing hypoproteinemia. Amino acids, plasma and red blood cells are especially helpful for the occasional patient who does not tolerate blood transfusions. Another aid is the intravenous use of red blood cells remaining after the plasma has been withdrawn. There is less likelihood of reactions following their use. For many patients with cancer of the colon, the administration of thiamine (vitamin B_1) is important. The indication for administering this vitamin is the presence of the red beefy tongue, so commonly seen in patients with disease of the colon. The treatment of complications is also important after the operation. Where as formerly infection was the rule, with the use of succinylsulfathiazole this has been rendered practically a nonentity. Infection still occurs after operations on the colon, but the massive necrosis of wounds has practically ceased with the use of this sulfonamide compound. After the many stage Mikulicz operation, there was always more or less infection, as a result of the soiling of the wound by feces. The marvel of it all is that more patients did not die from massive infection as a result of this operation. Peritonitis following a colon operation is now practically unknown. One must always be on the lookout for pneumonia, on account of the age of most of the patients operated on. Atelectasis is a fairly common complication. A bronchoscopist or an anesthetist conversant with the bronchoscope should always be on the alert. Other complications are treated as they arise.

ANESTHESIA

In performing operations on the colon the continuous or fractional method of administering spinal anesthesia has been used in almost every case. With the continuous method one is sure of a prolonged anesthesia, and in some of these operations on the colon much time must be consumed. Five hundred milligrams of procaine hydrochloride is dissolved by the spinal fluid, after which the technic as proposed by Lemmon is followed.

MORTALITY

From 70 per cent to 80 per cent twenty-five or thirty years ago, the mortality has now been reduced to about 5 per cent. In some clinics it is around 2 per cent. No small contribution to this change in mortality is a better understanding of the preoperative preparation of the patients. No patient with cancer of the colon should be operated on without at least a week's preparation, and sometimes ten days is even better than a week. This has been fully discussed in the early part of this paper. The technic of performing a resection with end to end anastomosis has been much improved. Closure is now made in many cases without intraperitoneal drainage. This has contributed in no small measure to the reduction of mortality.

CONCLUSIONS

1. In the preoperative preparation of patients with cancer of the colon, attention must be given especially to the chemical balance.

2. Succinylsulfathiazole (sulfasuxidine) plays a most important role prior to the operation.

3. Careful attention to the symptoms will frequently enable the patient to be sent to the surgeon for operation before the growth reaches a late stage.

4. In the final diagnosis, proctoscopy, sigmoidoscopy and roentgen examination will be of great assistance.

5. A patient should not be sent to the surgeon for a hemorrhoidectomy without a thorough local examination.

6. The one stage operation is far superior to the two stage operation, for the reasons which have been given.

7. Before and after operation, the internist and the surgeon, as a team, are of inestimable value. It is important in these stages to counteract and prevent hypoproteinemia.

8. Continuous or fractional spinal anesthesia is the method of choice.

9. There should be no dissent on the part of the physician concerning a permanent colostomy. Lives have been prolonged by permanent colostomy, and patients have again been made useful citizens.

10. As a result of the improvement in preoperative and postoperative management, especially with succinylsulfathiazole and an improved technic, the mortality of 70 or 80 per cent of more than a generation ago has been reduced *to about 2 per cent.*

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SUMARIO

1. En la preparación preoperatoria de pacientes con cancer del colón, especial atención debe darse al balance químico.

2. Succinilsulfatiazol (sulfasuxidine) produce efectos muy benéficos antes de la operación.

3. La interpretación correcta de los sintomas precozmente pondrá el en-

fermo en los manos del cirujano antes de que el tumor sea inoperable

4 En el diagnostico final, protoscopía, sigmoidoscopía y radiografía sirven de utilidad y asistencia

5 El enfermo no debe ser enviado al cirujano para una hemorroidectomìa sin someterle a un examen local

6 La operación de un solo periodo es más ventajosa que la operacion en dos períodos por razones que ya han sido expuestas

7 Es de importancia la colaboración del internista y del cirujano en las curas preoperativas y postoperativas

8 La raquinanalgésia continua o fraccionada es el metodo de elección

9 El médico de cabecera no debe oponerse a la colostomía permanente, pues esta implica en muchas ocasiones la salvacion del enfermo y le permite llevar una vida normal

10 Como resultado de los adelantos hechos en el manejo de estos casos antes y después de la intervención quirúrgica, especialmente con el uso del succinil sulfatiazol y la técnica moderna, la mortalidad que fué de 70 a 80 por ciento hace una generación, ha sido reducida a 2 por ciento aproximadamente

RÉSUMÉ

1 Dans la préparation préopérative du malade avec cancer du colon, il importe de faire très attention à la balance chimique

2 Le succinylsulfathiazole (sulfasuxidine) joue un rôle très important dans la préparation du malade pour l'opération

3 L'analyse minutieuse des symptômes dont se plaint le malade permet les opérations précoces

4 Pour le diagnostic définitif, la proctoscopie, la sigmoidoscopie et les rayons X sont d'une grande utilité

5 Un examen minutieux doit être pratiqué dans les cas d'hémorrhoides

6 L'opération en un temps est préférable à l'opération en deux temps, pour les raisons que nous avons avancées

7 Avant et après l'opération, la coopération de l'internist et du chirurgien est d'une valeur inestimable Il importe de prevenir et de combattre l'hypoproteinémie

8 L'anesthésie spinal continue ou fractionnée est la méthode de choix dans ce domaine

9 La vie a éte prolongée par la colostomie permanente, et les malades ont pu reprendre et mener une vie active et normale

10 Vu les améliorations apportées dans les soins préoperatoires et postoperatoires de ces malades, l'emploi de succinylsulfathiazole et les perfectionnements apportés à la technique opératoire, la mortalité de 70 pour cent a 80 pour cent de la génération passee a été réduite a 2 pour cent

СВОД

1 При до операционной подготовке больного с раком большой кишки, необходимо обратить особенное внимание на химическое равновесие

2 Суксинил сульфа тиадол (сульфасуксидин) играет важную роль до операции

3 Внимательное отношение к симптомам часто дает возможность послать больного к хирургу до того, как опухоль достигает последнюю стадию

4 Проктоскопия, сигмоидоскопия и рэнтгеновское исследование очень полезны в постановке заключительного диагноза

5 Без точного местного исследования не следует посылать больного к хирургу для гемороидектомии

6 На основании вышеданных одностажная операция гораздо лучше, чем двухстажная

(Continued on page 260)

"Hernias of the Pelvic Floor" versus "Prolapse of the Uterus or/and Rectum"

A Problem of Nomenclature, Pathology and Treatment

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I AM not certain when weakness of the abdominal wall and visceral protrusion in the caudal region began to receive a different nomenclature than that accorded to all other escapes through the abdominal wall. Certain it is that the use of the terms "prolapse" and "procidentia" for visceral protrusions and extra-abdominal wandering in the region of the pelvic floor are of ancient origin. While defects in the abdominal wall and visceral escape have been recognized as herniation and a sound treatment applied in the cephalad, ventrad, laterad and dorsad portions of the abdominal wall, the same conditions in the caudal wall are given the meaningless and misleading terms "prolapse" and "procidentia." This has led to surgical and nonsurgical attention being given to the viscera instead of adequate recognition and surgical correction and nonsurgical aid being properly directed to the abdominal wall as well. There now remains no question among those who have studied the problem that the tardiness of recognition of the hernial nature of visceral escape in this region has been due to lack of liaison between anatomic research and surgical application.

Sappey said that "the levator ani is one of those muscles which has been studied the most and at the same time, one about which we know the least." There are many reasons for this, one of which is the change to the upright position and the environmental changes in tail muscles to meet the greater need of supporting structures. Again, the implication of minimized conception of the function of the muscle by the name "levator ani." While the muscle is to a certain extent a lifter of the anus, that is an inadequate term. It is a lifter of all attached structures—the rectum, the vagina, the urethra, the bladder and indirectly the supporter of all superimposed viscera, and *it is also* a sphincter recti muscle and a vaginal constrictor.

The question is often raised as to which portion of tissue is most important—the muscular or the fascial. It would appear of great importance that the three layers of muscles and five layers of fascia are so woven together as to make them almost inseparable; this implies perhaps that one is not to be set against the other, but that their functions are to be performed in unison.

Again, the study of the pelvic floor has been difficult because of designations of relative positions, such as anterior and posterior, superior and inferior, superficial and deep. The fact that these terms were originated as of the standing position while the subject is studied in the reclining position makes the application of the terms to the changed position difficult. Students have confessed to a more ready understanding by use of the scientific terms cephalad, ventrad, dorsad, laterad and caudad, which have the same significance with all positions. It has also helped many to realize the caudad portion to be on a par with the rest of the abdominal wall; this is not brought out by such terms as levator ani muscles and pelvic floor or even lower abdominal wall. It has been difficult for many to realize that the pelvic floor is anything other than an open structure from which pelvic organs can descend or prolapse.

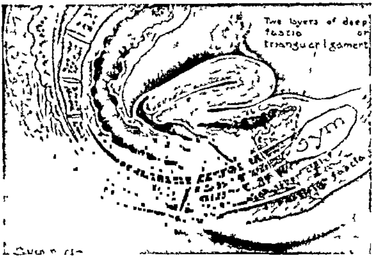

Fig 1. Diagrammatic drawing of the caudal end of the abdominal wall, showing the pelvic floor with five layers of fascia and three layers of muscle covered with the skin. The rectum, vagina and urethra are seen passing through the pelvic floor The lower abdominal organs, the uterus, bladder, vagina and rectum, lie above the pelvic floor

It is difficult to accept the fact of herniation unless one is able to accept the caudal wall on the same basis as the ventral wall, as an enclosing structure which is subject to hernias as is the anterior abdominal wall but is more frequently affected by reason of the low position and the openings in the wall for the passage of the terminal ends of tracts, and by childbirth through the caudal wall, with frequent damage. If one visualizes a real abdominal wall in the caudal region, it is untenable to accept the prolapse theory, for the normal position of the viscera is distinctly above this wall and their protrusion brings them below this structure by their passing through openings in this wall. Thus such protrusion conforms to every requirement for a hernia. A distinct abdominal wall; the normal position of viscera inside the abdomen and above this wall; the acquired position below this wall by passing through the pelvic floor—to a thinking person these should be conconvincing. It is not controversial; it is absolute and demonstrable. The method of treatment may be controversial, but this can best be standardized when once the pathologic condition is accepted as according to fact.

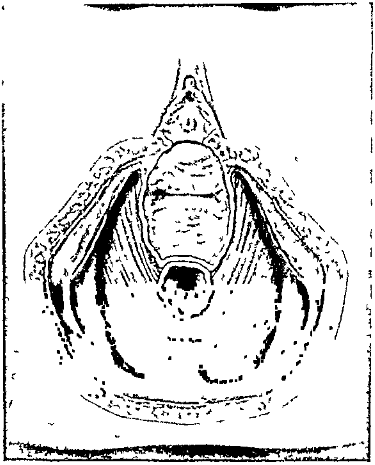

Fig 2. Soft parts cut away down to the levator ani muscle, showing childbirth injury to the pelvic floor with wide separations of the muscles and herniation of the bladder and rectum The uterus may be expected to follow Muscles on each side show good structure for rebuilding the pelvic floor

The acceptance of the phenomenon on a false basis of wrong precedent does not at all offer a good reason to continue the error. Anatomists are aware of the existence of muscles and fasciae which constitute the efficient caudad wall; they know the relation of the viscera to this wall before and after its impairment. Gynecologists and proctologists should appropriate this anatomic knowledge and adapt it to the prevention and cure of hernias of the pelvic floor.

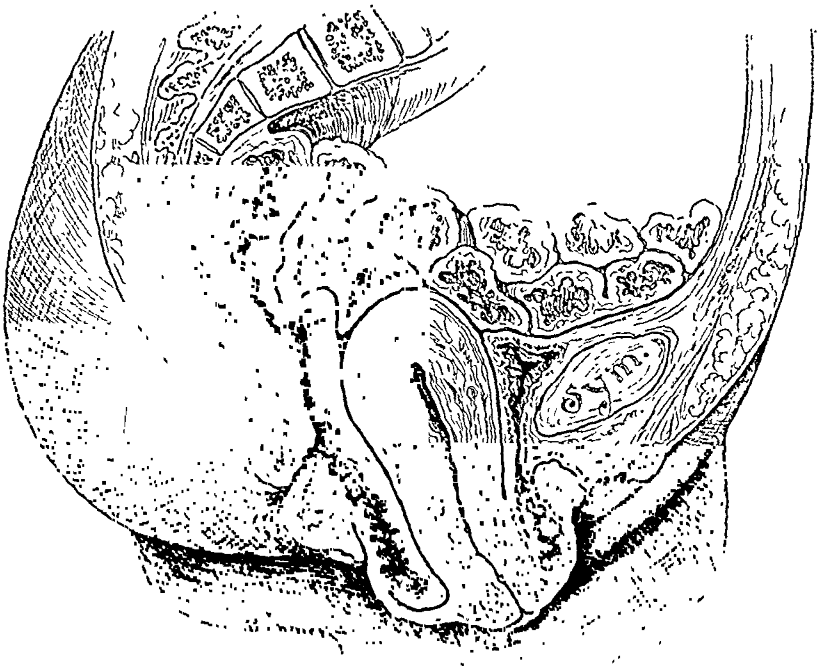

Fig. 3. Injury to the pelvic floor with adjacent structures of the vagina, uterus, bladder and rectum. Culdesac herniating through the pelvic floor.

Decades of time were lost in failure to recognize the pelvic floor as an adequate support and in trying to invent mythical supports such as “atmospheric pressure,” “negative abdominal pressure,” “retentive power of the abdomen” and “intra-abdominal pressure.” Some of these have not yet been discarded, as is evidenced by the frequent use of intra-abdominal pressure to support organs. Even such vague and helpless aids as “atmospheric pressure” and “retentive power of the abdomen” are called upon by some recent writers to do what they seem to think that the pelvic floor and the visceral ligaments cannot do. One should never fail to keep in mind that the problem is one of adbominal organs with weight to be carried, and abdominal walls and ligaments to carry this weight.

An equally faulty conception is that a “prolapse” of structures which are supposed to have drifted downward and forward justifies the use of the term “prolapse” without any consideration of the pelvic floor. Gynecologists, who long ago should have rid themselves of the prolapse theory, have set a bad example to veterinarians and proctologists by terming a hernia of the pelvic floor a prolapse, although instead of its being downward and forward it is upward and backward in the case of four-footed animals. The veterinarian rightfully terms umbilical protrusions “hernias,” in spite of the distinctly downward course of the protrusion, showing that downward direction has no bearing on the question. Proctologists are still following the example of the gynecologists in calling protrusions through the posterior pelvic floor slit "rectal prolapse," leaving out consideration of the impaired supporting structure as one important factor in the herniation, just as gynecologists stick to the term "prolapse of the uterus" to apply to a widely distributed herniation of bladder, vagina, rectum, etc., which may or may not include the uterus. Whether it does or not, "prolapse of the uterus" is a term of antiquity which did not at all consider the importance of the pelvic floor or the extent of the pathologic process.

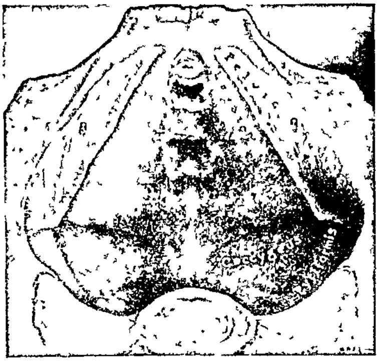

Fig 4 Pelvic floor shown intact from above, with complete closure except openings for the passage of the vagina, rectum and urethra

The early skin–mucous membrane operations for prolapse of the uterus were mostly efforts to cover up genital conditions which the conception of prolapse of the uterus could not correct. Slowly, empirically, the skin–mucous membrane butterfly flap, non-pelvic-floor operations grew a little deeper and resulted in an effort to narrow the vagina or put a perineal body between the vagina and rectum. Often this so called body started in the labia majora and ceased before it reached the remains of the hymen. Slowly, empirically, blindly, perineal operations began to dip down and in some later stages began to utilize separated structures to discourage the downward trend of the prolapsing uterus. Slowly some surgeons began to recognize the importance of depth of the wound, realizing that injury to the pelvic floor might and often did involve all layers of structure, but they denied the possibility of picking up these layers as a hernial repair.

In spite of Goldspahn's claim that the muscles could not be identified after their years of disuse, Harris found them, and operated on them by taking out a transverse inch of each side of the levator ani muscle. His experience should have been a warning against transverse, or oblique, episiotomy, but this was forgotten before the enthusiasts for a quick and easy delivery had discovered that practically every woman "had" to have an "episiotomy," which means an operation on the vulva.

I tried the Harris operation and found it too mutilating, but I discovered that by raising the posterior vaginal wall the muscle could be picked up and brought together in the median line. This was the basis of a hernioplastic repair of the pelvic floor. From that time, a protrusion of the bladder, rectum, vagina or uterus was to me a herniation through the pelvic floor and the method of treatment was a hernioplastic repair, which in many cases is simple and in many cases is complicated. In 1908 I presented the subject of "Hernias Through the Pelvic Floor" to the Chicago Gynecological Society and showed hernioplastic measures for their relief. In 1912 Montgomery read a paper before the same society entitled "Hernia

Through the Pelvic Floor," in which he quoted my pelvic floor operation and also Tandler and Halban's work. Dr. Montgomery's work showed some insight into the nature of hernia of this region, but it did not completely avoid the evils of "prolapse" of ancient vintage.

In 1915, Charles Mayo in writing on "Prolapse of the Uterus" incidentally remarked that such conditions were "really hernias," but he did not deal with them as such. Sturmdorf in 1919 mentioned the faint resemblance of this process to a hernia, but gave nothing constructive. Jeff Miller in 1932 took a definite stand, that cystocele, rectocele and colpocele were hernias, but in his writings these terms are a little confused with prolapse. Numerous writers have been able to recognize as hernias escapes of the uterus through the inguinal ring, the umbilical ring and a ventral operative ring, but vision fails when the bladder, vagina, uterus and rectum herniate through the pelvic floor rings.

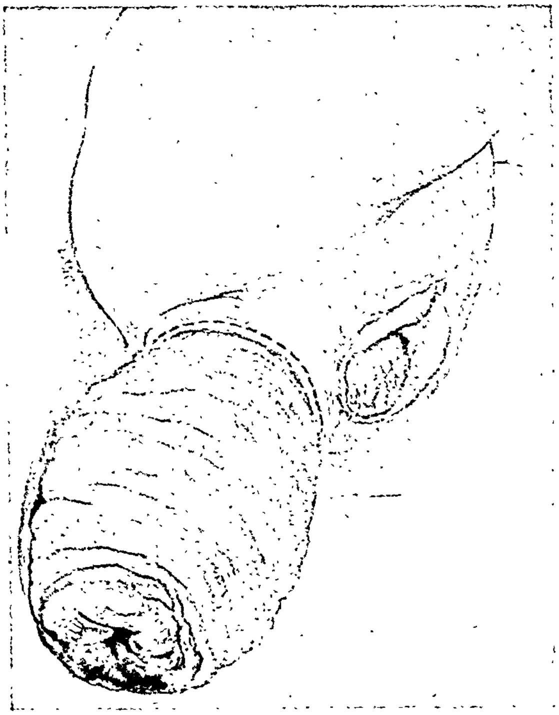

Fig. 5. Herniation of the rectum the size of a coconut. There was also a rectocele, which was greatly increased in size when the herniating mass was replaced. The dotted line shows an incision just inside of the sphincter for removal of the herniating bowel.

I have come to believe, after studying all phases of the pelvic floor, that the understanding of the construction of the pelvic floor, the recognition of impairment, primary and secondary, and the full reconstruction create an engineering problem.

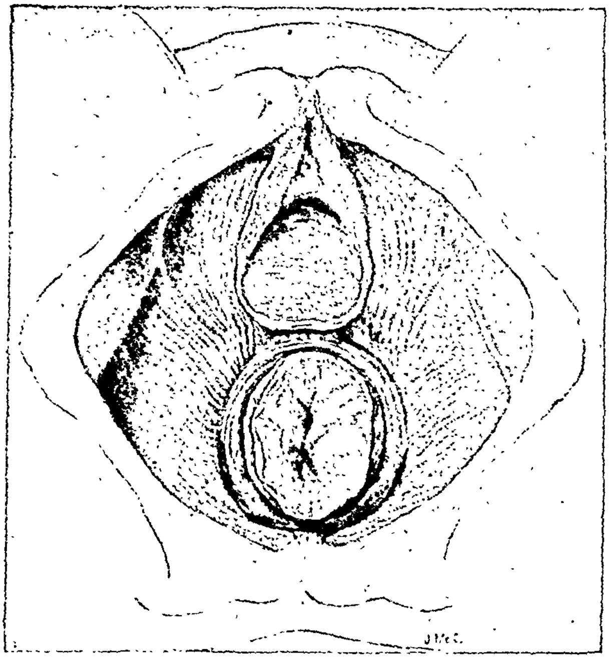

Fig. 6. Soft parts cut away to expose the condition of the sphincter and the lower part of the bowel after the removal of the herniation.

I must confess that as I presented the aforementioned paper on hernias I harbored a thought that this might slowly, very slowly, win a few thoughtful minds away from the dwarfing conception of "prolapse of the uterus" to the more scientific conception that when there is a cystocele, a rectocele, a colpocele, a urethrocele and perhaps an enterocele (all hernial terms), the combined mass of viscera leaving the abdomen to dwell outside the abdomen or wander between the patient's legs, the observer would not be satisfied with an operation for "prolapse of the uterus" (or the more objectionable term "procidentia uteri") and the physician would therefore admit the more scientific conception of hernia below the caudal wall of all the structures which in normal condition dwelt above this wall in the abdomen. So far, with the aforementioned exceptions, there has been halting, stumbling progress, based on an erroneous conception of pathology. Some of the procedures that have been introduced appear to be efforts to hide the uterus from all who should know its whereabouts. One of the worst of these is the Le Fort operation, which does not even undertake to offer a supporting structure and puts the responsibility upon two of the most movable structures, the bladder and the rectum, to the detriment of both.

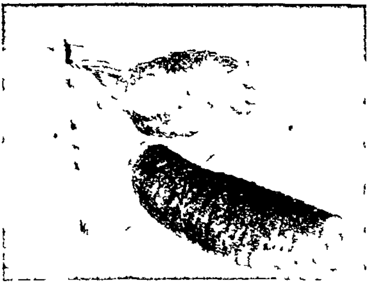

Fig 7 Herniation of the bowel, uterus, bladder and culdesac in front and 11 to 12 inches (28 to 30 cm) of protrusion from the rectum and sigmoid (From V. K Allen Tr Am. Proct Soc, to be published)

Then there is the Watkins-Wertheim procedure. Too bad that two such good men's names ever became associated with such a pathologic procedure! It buries the uterus in a herniated position, and as a support for the bladder it does not offer the least rationale to justify its extreme result.

A wide use has been made of hysterectomy without correcting other pathologic conditions than the uterine and without even attaching the ligaments to the vagina Naturally, letting the operation correspond to the conception of the pathologic process, removal of the uterus eliminates "uterine prolapse," but the abnormal conditions overlooked become several times worse with prolapse of the bladder. The general surgeon is fond of doing an abdominal hysterectomy without rebuilding of the pelvic floor, which is equivalent to doing a suspension or removal of the gallbladder and failing to close the hernial opening, if the gallbladder had become part of the umbilical hernial contents.

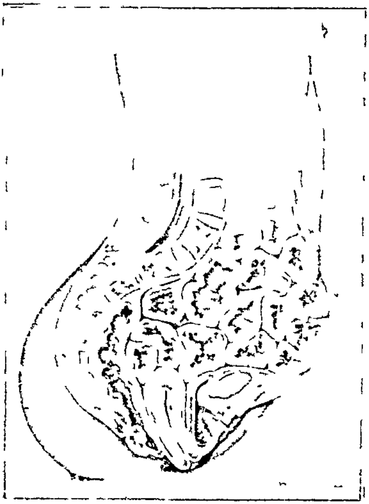

Fig 8 Well developed herniation of the uterus, vagina, bladder and rectum, with the projecting abdomen for carrying a part of the abdominal viscera A sagging epigastrium from the downward pull of the hernia is also to be noted

Now surgeons are asked to reconsider

the tinkering operation of Spalding and Richardson—removal of the cervix, a supracervical hysterectomy, reaming out of the tube of cervix that is left and then use of this stump to take the place of the uterine body in an aborted Watkins-Wertheim operation. One is led to exclaim, ‘‘Well, make up your mind!’’ This is but a partial list of the makeshifts.

To make a long story less long, *it is a hernia* that is under consideration.

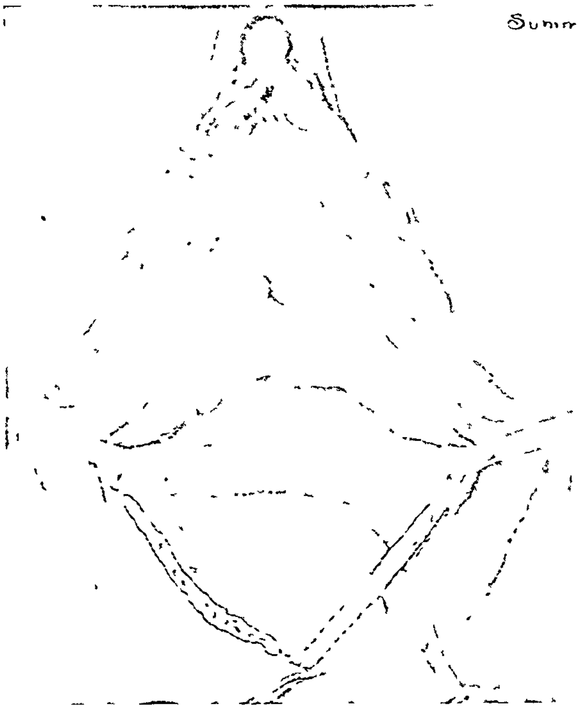

Fig. 9. Beginning of an operation to repair an injured pelvic floor which is resulting in herniation. The herniation of the bladder shown here was previously repaired at the same site.

What a lot of unscientific claptrap could have been avoided if this had been recognized even a short fifty years ago. It would have kept Thiersch from putting a silver wire around the rectum for so-called rectal prolapse. It would have shown that rectal and genital herniations are very much interrelated.

Textbooks abound in references to uterine prolapse, but no mention is made of structures’ coming through the pelvic floor cleft as hernias. The references to the relation of rectal protrusion to defective pelvic floor support have been slight. In Vittel, France, in 1918 I did a hernioplastic operation on a 3 inch (7.5 cm.) herniation of the rectum in a male.

Moschcovitz spoke of herniation of the posterior peritoneal sac as the cause of rectal prolapse and recommended abdominal obliteration of the culdesac and sigmoidopexy for the repair of the prolapse. In his reference to hernia he was speaking of the peritoneal involvement.

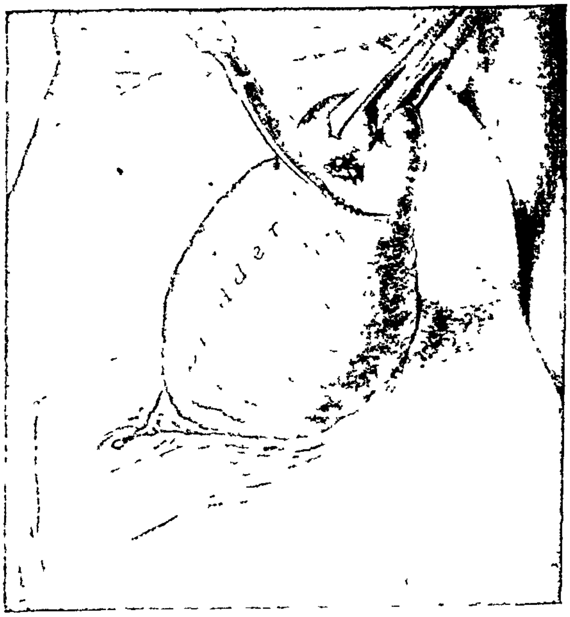

Fig. 10. Extensive herniation of the vagina, bladder and rectum with beginnings of an operation for vaginal hysterectomy and repair.

Early in 1942 I presented before the Chicago, St. Louis and Kansas City gynecologic societies a paper on ‘‘Combined Herniations of the Genital and Rectal Structures,’’ with a hernioplastic intrasphincterian operation for the cure of rectal herniation. Cohn and Graham have each presented operations for the cure of rectal prolapse, referring to the hernial nature of prolapses. V. Allen has just presented a paper before the American Proctological Society upon "Rectal Herniation with Intra-sphincterian, Hernioplastic Operation" and reported interesting cases, one of combined rectal, uterine and bladder herniation, and all of extensive involvement, in which he followed the technic which I had reported. I was honored in being asked to discuss this paper and present my views on the hernial nature of this and all protrusions through the abdominal wall.

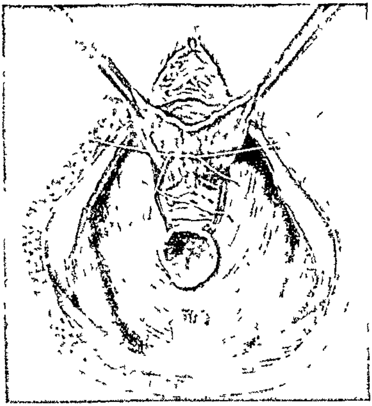

Fig 11 Soft parts cut away and the vaginal wall lifted from the rectal wall with sutures placed in the edges of the fascia and muscle of the pelvic floor for hernioplastic operation

It is apparent that herniation of the rectum is being recognized more frequently, while gynecologists are adhering to the old notion of "prolapse of the uterus" Yet this also is a hernia through the pelvic floor and will come to be so recognized.

It is even now not uncommon to see the pelvic floor by-passed as being of no importance whatever in the management of prolapse, while the treatment of hernias must recognize this structure to be of utmost importance. As a hernia, the condition divests itself of the mystery and uncertainty which has surrounded it when it was considered as prolapse. Etiologically and surgically, two important structures present themselves for consideration: (1) the abdominal wall, which should be intact but which becomes impaired and permits abdominal viscera to pass through; (2) the abdominal structures which find the openings in the wall and pass to the outside of the abdomen.

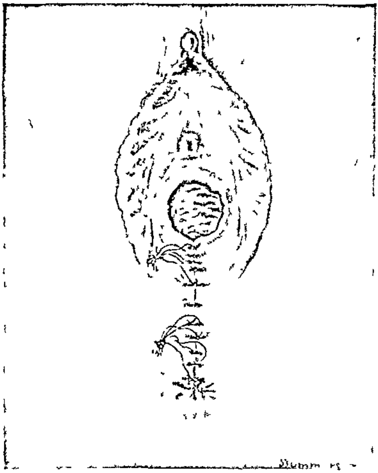

Fig 12 Completion of the repair in a case of complete tear With an incomplete tear only the forward half of the suture line would be present

In considering the abdominal wall one must recognize the fact that impairment leading to herniation is usually due to injury during childbirth and stretching of the tissues of the wall, to increased intra-abdominal pressure or a fall, etc., or to one of the many conditions which favor hernial development in other regions. Traumas from other sources, the surgical injury of episiotomy, congenital defects, degeneration of tissues and faulty innervation play a part. The condition of the lower abdominal wall may allow only a moderate herniation of the bladder, rectum and lower part of the vagina, or it may eventually allow the passage of extensive portions of the bladder, urethra, vagina, uterus, rectum, anterior and posterior culdesac, ureters, blood vessels and perhaps other adjacent viscera. Even in extensive abdominal wall (pelvic floor) separation permitting the condition termed by Barry Hart "pubococcygeal herniation," there is frequently good structure of the pelvic floor, so that only the proper approximation is necessary to achieve good hernioplastic repair.

With regard to the escaping viscera, let it be remembered that they may herniate very little or not at all at first, and that they may continue in good position and in excellent health for some time. On the other hand, weakened ligaments, softened heavy tissues and an active, hard life may cause herniation to progress rapidly. These structures may have undergone considerable pathologic change before making their escape, but with the onset of herniation the hernial ring constricts, pinches the tissues and strangulates the blood supply. The rectal and urinary currents are obstructed, and the mucous membranes become exposed to trauma and infection and frequently undergo ulceration and even gangrene, so that pathologic changes readily develop in addition to those which the organs have previously acquired.

The pelvic floor is usually amenable to restoration to usefulness. The herniating structures and the caudal wall must be subject to a careful engineering analysis. The herniated structures must be returned to the abdomen or be removed. As the uterus, tubes and ovaries, with such pathologic changes as they may carry, are the only structures which are ordinarily removable, all others are to be replaced and the best possible measures carried out to hold them in position. This should not exclude occasional removal of parts of the bladder.

The uterus can usually be saved unless its pathologic involvement warrants or demands its removal. If it is beyond the age of usefulness, it may be taken out on a smaller pathologic consideration. The following questions should be answered:

1. Is the uterus healthy?
2. Is the uterus needed for childbearing?
3. Is the patient in, near or past the menopause?
4. Does the uterus contain such uncorrectable pathologic changes as to warrant its removal at any age?
5. If the uterus is to be retained, will the patient's condition be improved by an amputation of the cervix or/and a curettage? There is often much to be accomplished in lightening the load in removing diseased tissue and in preventing the easy slide of the cervix in loosened connective tissue.
6. Is the retention of the uterus sufficiently desirable to warrant the removal of a fibroid? Usually not in cases of long-standing herniation.
7. If the uterus is to be retained, every effort should be made to leave it in a normal, uncramped position.
8. As visceral support is to be obtained not only by continuity of the pelvic floor but, by reason of the openings left, by the restoration of the normal relations of the uterus and vagina, the vagina should be left in an oblique position, running from the introitus backward and upward close to the hol-

low of the sacrum, and the uterus should be left in the horizontal position, with fundus forward and cervix backward—this oblique and right angle course being a part of the principle of pelvic floor support. Sometimes this is sufficiently accomplished by directing the fundus forward by the round ligament operation (reported in *Surgery, Gynecology and Obstetrics* in 1905), which carries the anterior layer of the broad ligament with it.

Sometimes it is desirable to direct the cervix and vagina backward by shortening of the sacrouterine ligament or by the Alexandroff or Dudley operation of putting the cardinal ligament in front of the cervix, as practiced later in Manchester with a more extensive amputation.

Veenboer, in an as yet unpublished paper, recommends using the much elongated sacrouterine ligaments by carrying them forward below the pubocervical fascia and attaching them to the arcuate ligament, using them to reinforce the pubocervical fascia in supporting the bladder and sewing them to the upper end of the vagina to hold it backward. This would seem to offer some merit in cases of extended herniation.

I have not been impressed over the years with undesirability of maintaining the uterus in the horizontal position or with inability of the round ligaments to render valuable aid. These measures are hardly worth while in cases of extensive herniations of elderly patients with considerable uterine involvement, but in cases in which uterine function is desired many patients have been left childbearing and physiologic menstruation has been conserved for the normal period. Occasionally it has seemed worth while to preserve the latter function by doing a defundectomy for fibroids.

If removal of the uterus is counted desirable, attachment of the vagina to the supporting structures should be insured. The needs of the herniated visceral structures should be accomplished by adequate narrowing of the expanded vaginal and bladder walls; the vesicle and vaginal fasciae should be sufficiently narrowed, and the loosened visceral terminals should be adequately reunited to the pelvic floor structures, especially around the rectum.

In the rebuilding of the pelvic floor, the injured pelvic floor should be reached by raising the vaginal flap well above the pelvic floor muscles and fasciae. The rectal fasciae should be narrowed, and the separated pelvic floor muscles and fasciae should be brought together extensively enough to close the hernial opening, leaving a sufficient pelvic floor opening to allow passage of the vaginal tract and going back far enough to insure a good grasp of the rectum by the pubo rectalis, or so-called sphincter recti, muscle. If the sphincter ani muscle and the rectovaginal septum are not intact, they should receive rebuilding. If the sphincter muscles are still partially intact but considerably stretched, the sphincter may be drawn forward and two or three sutures placed so as to lessen the size of the sphincter. There may be such lack of intactness of the pelvic floor posterior to the rectum as to make an opening posterior to the rectum desirable for this repair, but usually good closure of the pelvic floor cleft in the hernioplastic operation remedies this defect.

Occasionally extensive rectal herniation may accompany the marked herniation through the genital cleft. The rectum may herniate a few inches to several feet. This combined involvement may present an important problem of pelvic floor engineering, as to whether the two conditions should be dealt with separately or at the same time, and, if separately, which is the most urgent. In instances of extensive rectal herniation with genital herniation it seems best at times to do the rectal hernioplasty first, but in a case reported by V. Allen the herniated bladder was operated on first, for a quantity of stones, and the extensively herniated rectum was operated on ten days later, by the intrasphincterian hernioplasty which I had reported (in the *American Journal of Surgery*).

The intrasphincterian hernioplasty begins with a severing of the lower end of the bowel from the skin just inside of the sphincter ani; the bowel is then drawn down, and the pelvic floor is sutured through the greatly dilated sphincter. The greatly enlarged pelvic floor opening is lessened in size by placing two or three sutures in the borders of this opening anterior and posterior to the rectum, after which two or three sutures are placed in the skin and sphincter anterior and posterior to the bowel, bringing the new anal opening down to a normal size. A great advantage is gained by doing this procedure while the hernia is still small. In Allen's case it extended out 11 inches (28 cm.), making 22 inches (55 cm.) of herniated bowel. The hernias in some of my cases have been more remarkable for size than length, the largest being about the size and shape of a coconut. These conditions, whether simple or complicated, are true herniations and should be dealt with as such. Every step toward hernioplastic repair should be a step toward normalcy instead of an abnormal hiding or malplacement of the uterus or its remnants.

I was once asked how I should deal with a certain very large ''prolapse'' of the uterus, the mass containing the bladder full of stones, the uterus, posterior to that a large rectocele, and an enlarged culdesac of Douglas, in which intestinal loops could be palpated. Could any one fail to recognize this as a hernia? The covering of the herniated mass was the vaginal wall, dusky red, edematous, tender, ulcerated, excoriated, inflamed. The whole mass was perhaps the size of a 2 year old child's head, and of course one should visualize in the mass kinked and obstructed ureters, with hydroureters and hydronephrosis, and perhaps with these contents mixed with pus.

My reply: ''I should proceed just as I should with a like-sized hernia in the umbilical region, with special attention to this region.''

Much can be done to improve the condition of the poor risk patient. The local conditions should receive attention. Infections and ulceration should be cleared up. A recumbent posture, a tampon and a tight pad will hold the uterus inside; circulation will be improved and edema will be eliminated, and the tissue will rapidly acquire greater resistance. Cardiac, renal and pulmonary embarrassment should be overcome; anemia should receive consideration; administration of blood plasma and fluids, with dextrose solution, may be desirable. For poor risk patients with some sepsis, sulfathiazole and penicillin will be a worthy crutch. Familiarity with the anatomy and surgery of the region helps greatly in serious cases.

CONCLUSIONS

This paper is intended to emphasize the hernial nature of all protrusions through the caudal wall of the abdomen, as of protrusions in all other walls. The hernia presents these main points:

1. Impairment of the pelvic floor exists.

2. The herniated structures have undergone pathologic change.

3. There is disunion of the normal attachments between the supporting structures and the structures to be supported.

4. Cystocele, rectocele, colpocele, uterocele and enterocele do not become hernias by bulging into the vagina or rectum, or even essentially by protruding out of the vagina or rectum; rather they become hernias if and when they bulge through the musculofascial openings in the pelvic floor.

5. Prolapse of abdominal structures is a wandering downward of structures in the abdomen.

6. Hernias are visceral wanderings into or through the abdominal wall or outside the abdomen, and both the viscera and the walls must be taken into consideration.

7. There is no treatment for *prolapsed* viscera outside the abdomen, for when they protrude they are hernias and as such *their treatment* is hernioplastic.

8. Progress in the correction of all phases of pelvic floor herniation depends on recognizing the hernia and dealing with it in the sound way that one does with hernias in other regions.

9. Hernioplastic work on the pelvic floor is more complicated because the structures which form support and which must be reconstructed have the added function of looking after the sluice gates of that region and have charge also of the functions and timing of reproduction.

10. The consideration of all the phases of construction, function, impairment and complicated reconstruction leads justly to the term "pelvic floor engineering."

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SUMARIO

Mientras que se reconoce la antigua costumbre en el uso de los términos "prolapsus" y "procidencia," que indican la extencia de un empuje de organos y tejidos abdominales por el suelo de la pelvis o pared caudal, el autor hace o da enfasis a la importancia de colocar estas condiciones o entidades patológicas bajo la misma base anatómica, esto es, como protrusiones o empujes en otras partes de la pared abdominal; dice que son en verdad *organos y tejidos* que han encontrado un punto débil en la pared y han empujado más o ménos la pared hacia el exterior, precisamente con todos los elementos que constituyen la hernia, y por consiguiente es lógico efectuar una reconstrucción no solo para, corregir el prolapsus de la pared, cuya reparación incluye el reponer viscera y tejidos en posición original, pero para cerrar el anillo de hernia musculofascial de tal manera que los tejidos permanézcan en su posición normal intraabdominal. Este trabajo (articulo) indica que en la region del suelo pelvical la posición baja de la pared caudal (de la cola) y las aberturas terminales predisponen a la hernia y estas condiciones existentes complícan hasta cierto punto la corrección de defectos, ya que la hernia se cierra necesariamente subtotalmente.

El plan de reparación debe tomar en cuenta: (1) los cambios en la estructura y posición de las partes que componen la hernia; (2) los cambios en el suelo pelvical y esfínteres, con ensanchamiento del anillo musculofascial, y (3) la separación de adherencias entre los limites viscerales y el suelo pelvical, esfínteres y sosténes o apoyos. Estos factores no pueden ser considerados aquí bajo el término de prolapsus del utero como tampoco sería propio tratar una hernia umbilical bajo el nombre de la vesicula biliar, si este organo se encuentra en el contenido del sáco.

Muchos autores han reconocido como verdaderas hernias el escape o prolapso del utero al través del anillo inguinal o del anillo umbilical (ombligo) y la hernia al través del anillo ventral en cicatriz; pero las hernias de la vejiga, vagina, utero y recto al través de la pared anterior y posterior del suelo pelvical han sido reconocidas por pocos.

Para corregir las hernias del suelo pelvical, una histerectomía se efectua a veces, y esto debe hacerse cuando el utero está patalógico, pero la histerectomía no se debe considerar adecuada como procedimiento para la hernia, pues el defecto persiste sin embargo. La vagina y el recto no deben ser considerados como canales de la hernia, pues estos solo toman parte con los tejidos empujados.

La cistocele y el rectocele no son más que el empuje al través de la pared anterior vaginal y del suelo vaginal, y ambos condiciónes constituyen la colpocistocele y el colporectocele.

Las hernias son empujes descaminados dentro o al través y fuera de la pared abdominal, y por consiguiente ambos, las visceras y las paredes, deben ser tomadas en consideración.

No hay tratamiento para visceras en prolapsus fuera del abdomen, porque cuando empujan son hernias y el único tratamiento es hernioplastia.

Todos estas consideraciónes — construcción, función, impedimento y reconstrucción complicada — llevan naturalmente al uso del término ''ingeniería del suelo pelvical.''

RÉSUMÉ

On emploie souvent les termes ''prolapsus'' et ''procidentia'' pour les protrusions des viscères abdominaux à travers le plancher pelvien ou la paroi caudale. Néanmoins l'auteur insiste pour que ces déplacements des organes soient envisagés comme les autres protrusions à travers la paroi abdominale. C'est à dire, ce sont des viscères ou des structures abdominaux qui, ayant trouvé un point faible de la paroi, s'y sont insinués et, ayant traversé la paroi, paraissent à l'extérieur.

Quoique qu'on puisse démontrer dans presque tous les cas de hernies une descente ou un prolapsus, cela est un élément secondaire. L'élément majeur est que le contenu herniaire a traversé la paroi abdominale et qu'il est d'importance essentielle que non seulement la descente, le déplacement, soit corrigé mais qu'il faut replacer le contenu herniaire dans l'abdomen et fortifier ou renforcer, ou plûtot obturer, l'anneau musculofacial herniaire de telle façon que le contenu herniaire soit maintenu permanemment dans sa position intra-abdominale normale. Dans le plancher pelvien et dans la partie inférieure de la paroi caudale, il y a des ouvertures pour certains conduits. Ces conduits prédisposent aux hernies. Cela complique la correction de ces hernies, car ces ouvertures ne doivent pas être obturées complètement.

Il faut prendre en considération trois facteurs importants: (1) le changement de position et de structure des parties prédisposant, amorçant, consti-

tuant la hernie; (2) les changements presentes par les supports du plancher pelvien et par les sphincters avec relachement et élargissement des anneaux musculofasciaux, (3) la séparation des attachements entre les terminaisons viscérales et les sphincters et supports du plancher pelvien.

Ces facteurs sont d'une grande importance Une hernie ombilicale renfermant la vesicule biliaire demande plus que le retour de son contenu dans l'abdomen Il faut renforcer la paroi C'est le point capital Beaucoup d'écrivains ont reconnu que l'utérus peut être et s'est hernié a travers un anneau inguinal, un anneau ombilical et divers autres anneaux de la paroi abdominale, mais les hernies de la vessie du vagin, de l'utérus et du rectum à travers les fentes antérieures et postérieures du plancher pelvien n'ont été reconnues que par très peu d'écrivains comme des hernies

On a parfois fait l'ablation de l'utérus pour la guérison des hernies du plancher pelvien Cela est une erreur, et une hystérectomie dans ces cas n'est indiquée que si cet organe est malade ou nonfonctionnant par raison de l'âge avancé de la malade

L'hystérectomie n'est pas un traitement adéquat de ces hernies Elle a été faite des milliers de fois, mais la hernie de la vessie urinaire du vagin, du rectum et d'autres structures n'est nullement bénéficiée par cette procédure

Ce qui constitue la hernie est une protrusion de structure abdominale (vagin, vessie urinaire, rectum, utérus) à travers les anneaux du plancher pelvien Le vagin et le rectum ne doivent pas être envisagés comme des canaux, des poches ou des receptacles, car ils sont eux mêmes une partie des viscères herniés

Une cystocèle ou une rectocèle n'est pas due à l'avancement et l'abaissement de la paroi vaginale, mais comme ces conditions n'existent jamais sans protrusion du vagin, il faut les désigner colpocystocèle ou colporectocèle Une colpocèle d'un léger degre peut exister sans vessie urinaire ou sans rectum, mais le contraire ne se rencontre pas

Les hernies sont des chevauchements des viscères dans, à travers ou en dehors de la paroi abdominale, et dans la correction des hernies il importe de prendre en considération et les viscères et les parois abdominales Il n'y a aucun traitement pour le prolapsus des viscères en dehors de la paroi abdominale, car ces prolapsus existant ici sont des hernies et leur guérison est du domaine des hernioplasties

Il faut considérer toutes les phases de construction, de fonction, d'affaiblissement et de renforcement du plancher pelvien Il faut être "ingénieur du plancher pelvien"

СВОД

Вполне признавая давно существующий обычай употребления терминов «prolapsus» или «procidentia» для обозначения выступления брюшных органов через тазовой пол или каудальную стенку, автор тем не менее подчеркивает, что очень важно рассматривать эти патологические условия с той же точки зрения, как и выступления в других частях брюшной стенки именно, что это просто органы или структуры чрева, которые нашли слабое место в стенке и выступили через стенку наружу, выполняя, таким образом, все требования грыжи

Хотя сползание или выпадение, до известной степени, константируется почти во всех грыжах, это является только второстепенным фактором самой главной патологической переменой является тот факт, что, когда брюшные структуры проходят через брюшную стенку, то починка этой стенки сама по себе не исправляет сползание органов, а должна включить также возврат органов в живот Это значит, что починка мышечно фасциального кольца должна быть про

изведена так, чтобы органы были восстановлены в их нормальное внутричревное положение. Этот доклад обращает внимание на то, что низкое положение каудальной стенки и присутствие отверстий кишечного и мочевого трактов создают в области тазового пола особенное предрасположение к грыже.

Восстановительные меры должны принять во внимание три фактора: (1) перемену в положении и построение грыжевого состава, (2) перемены в супортах тазового пола и в сфинктерах с расширением мышечно-фасцального кольца, (3) отделение спаек между висцеральными конечностями и супортами и сфинктерами тазового пола.

Задача, представленная этими факторами, выясняется употреблением термина «prolapsus uteri» не больше, чем применение к пупочной грыже, содержащей, скажем, желчный пузырь, термина «выпадение желчного пузыря».

Многие авторы рассматривают, как грыжу, выступление матки через паховое, пупочное или оперативное кольцо, но только немногие признают, как таковые, грыжи мочевого пузыря, влагалища, матки и прямой кишки через щели переднего или заднего тазового пола.

При починке грыжевых ослаблений тазового пола необходимо иногда удалить матку. Это нужно, когда болезнь матки дает показание на удаление ее. Если, благодаря возрасту или болезни, матка не функционирует, то ее можно удалить и по менее важному поводу. Но при каких бы то ни было обстоятельствах удаление матки не является само по себе достаточной мерой для лечения грыжи. Это было сделано тысячи раз, но всегда оставляется грыжи мочевого пузыря, влагалища и прямой кишки и, часто, других органов.

Что составляет существо грыжи, это выступление брюшного органа, органов или структур (влагалище, мочевой пузырь, прямая кишка, матка) через кольцо тазового пола. Влагалище и прямая кишка не могут считаться грыжевыми каналами, сумками или вместилищами, так как они сами составляют часть выпавших органов.

Грыжа пузыря (cystocele) или прямой кишки (rectocele) являются таковыми не потому, что они выступают во влагалище, а потому что они выступают через *щель в переднем тазовом полу. Но так* как они не выступают без влагалища, то они по настоящему должны быть названы colpocystocele или colporectocele, т.е. влагалищно-пузырная или влагалищно-прямокишечная грыжа.

Влагалищная грыжа (colpocele) может до известной степени существовать и без пузыря или прямой кишки, но никогда не наоборот.

Грыжа это блуждание органов внутрь, через или снаружу брюшной стенки. И необходимо принять во внимание не только стенку, но и органы. Нельзя вылечить органы, выступившие снаружу живота, потому что они тогда сотавляют грыжу. Их лечение таким образом грыжево-пластическое.

Соображение всех фаз конструкции, функции, ослабления и сложной реконструкции естественно приводит к терминологии «инженерное искусство тазового пола».

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The Present Status of Continuous Caudal Analgesia in Obstetrics

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WHEN continuous caudal analgesia in obstetrics was introduced by Hingson and Edwards, in 1942, much controversy ensued, partly because of untimely lay publicity and partly because this technic was hailed as the final result in the quest for control of the pain of childbirth The originators of this technic had used it in 33 instances at the Marine Hospital, Staten Island, N Y Their first demonstration outside of their own institution was performed for the staff of the Philadelphia Lying in Hospital This was their thirty fourth case, and it was so dramatic that my associates and I became enthusiastic about the possibilities of the method and decided to study its various ramifications to determine whether or not it was a safe procedure for obstetric practice After considerable work on cadavers and exhaustive investigation from a pharmacologic and a neurologic standpoint, we concluded that if used under the proper conditions this procedure was safe during the course of labor Since that time we have have the opportunity of working with Hingson and Edwards in studying the many associated problems which have developed Also, under the auspices of the United States Public Health Service, a one week postgraduate course in the use of the procedure was established at the Philadelphia Lying in Hospital in June 1943 Cognizant of the fact that it would be impossible to train an individual properly in this technic in such a short time, we have endeavored, in teaching the four hundred and twenty five physicians who have taken this course, to stress "what not to do" rather than "what to do"

In the fall of 1943 I had the privilege of presenting an evaluation of this procedure, and in that communication I incorporated some of the don'ts of continuous caudal analgesia As our knowledge of this method has increased, several have been added, and in this report I should like to bring these don'ts up to date The following precautions must be recognized if caudal analgesia is to be administered successfully

Don't think that caudal analgesia is applicable to every woman in labor We have found that it can be used in approximately 52 per cent of patients

Don't give it to a patient who is psychologically unsuited to go through labor and delivery in control of her mental faculties

Don't give it when there is any suggestion or suspicion of the presence of any of the contraindications to its use

Don't attempt to use this method without the proper equipment

Don't *attempt the procedure without* being thoroughly familiar with the *anatomy, physiology and pharmacology* involved

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From the Philadelphia Lying in Unit of the Pennsylvania Hospital.

Presented at the Ninth Annual Assembly of the United States Chapter of the International College of Surgeons Philadelphia Pa October 1944

Don't attempt this method unless you have had special training.

Don't persist in forcing the needle unless you are absolutely certain about the anatomic landmarks.

Don't persist in inserting the needle a second time if spinal fluid is aspirated.

Don't start the injection until labor is well established. The early discomforts of labor can be controlled by small doses of a barbiturate. The giving of a barbiturate preceding the caudal analgesia we believe should be a routine procedure.

Don't start the caudal injection unless the presenting part is well engaged or fixed in the pelvic brim.

Don't forget to check the exact position, station of the presenting part, amount of cervical dilatation, fetal heart tone, pulse and blood pressure before the caudal analgesia is begun.

Don't attempt this method unless you have the patient surrounded by all of the essentials necessary to meet the emergency in case the dura is entered or a blood vessel is penetrated. This can be combatted, if it should occur, without mortality.

Don't give the full injection until ten minutes has elapsed following the initial dose of 8 cc. and you have made sure that the patient moves her feet satisfactorily.

Don't hesitate to give vasopressor drugs in the presence of a falling blood pressure. Should the blood pressure fall more than 20 mm., the giving of vasopressor drugs and the elevation of the legs at a right angle, together with the administration of 100 per cent oxygen, is all that is necessary to cause it to return to its former level.

Don't forget to check the blood pressure and fetal heart sounds at frequent intervals.

Don't forget that a patient in labor under caudal analgesia must have constant supervision by a competent, trained person. Once the proper level of analgesia is obtained, a trained nurse-anesthetist can supervise the giving of further doses.

Don't forget that infection may occur if the strictest asepsis and antisepsis are not observed.

Don't attempt to use caudal analgesia in a private home.

Don't use this method if the placenta is believed to be in the lower segment of the uterus.

Don't forget that caudal analgesia shortens the first stage of labor.

Don't forget that the patient can aid in giving birth to her child by bearing down at the time of the uterine contractions. We have found that the incidence of spontaneous breech delivery has been increased by using this technic.

Don't forget that there may be an increase of transverse arrest of vertex *presentation due to the relaxation of the* pelvic muscles. These positions can be *rotated easily because of this relaxation.*

Don't attempt intra-uterine manipulation, such as version or manual removal of the placenta, without changing to inhalation anesthesia.

Don't allow the presenting part to remain on the perineum for more than a short time.

Don't forget that caudal analgesia lessens the loss of blood in the third stage of labor.

Don't forget to do an episiotomy earlier than with other forms of anesthesia, and when making the repair do not suture too tightly.

Don't forget to give the patient morphine after delivery, because when the analgesia wears off she is hypersensitive to postpartum contractions and to pain in the episiotomy wound.

COMMENT

I believe that continuous caudal analgesia has become established in the obstetric armamentarium and will continue to be used successfully However, many important problems which arise from time to time must be evaluated, for example, recently it has been clearly proved that if a solution of metycaine hydrochloride (benzoyl γ [2 methylpiperidino] propylbenzoate hydrochloride) is injected into the caudal canal of a person with hypertension the pressure will be reduced considerably and will remain low for hours and in some instances for days This finding has led my associates and me to experiment with the use of this procedure in our cases of hypertensive toxemia, and although our studies are incomplete our experience has been such that we believe it to be a distinct advantage in the management of preeclampsia, particularly in the prevention of convulsive seizures We are enthusiastic as to the eventual outcome of this investigation In the few cases of eclampsia in which we have had the opportunity of administering this drug according to this technic, the blood pressure has been reduced, the convulsive seizures have ceased, and almost immediately there has been a marked increase in the urinary output Time does not permit me to elaborate on the physiologic reasons for these results We hope to present them in more detail at some future time

Another problem which must be solved is whether or not any of the drug gets into the fetal circulation In the few instances in which we have had the opportunity of collecting a specimen for analysis at cesarean section, no metycaine hydrochloride has been recovered from the amniotic fluid

In our experience, the use of continuous caudal analgesia for cesarean section, as reported recently in the *American Journal of Obstetrics and Gynecology,* has continued to be an ideal procedure At present we are endeavoring to evaluate the use of continuous caudal analgesia and fractional spinal anesthesia for cesarean section We are convinced that for cesarean section the anatomic approach to anesthesia is far superior to any inhalation anesthesia, and we seldom use the latter for this type of delivery The rapid, smooth convalescence of the mothers and the excellent condition of the babies, we believe, will eventually result in the use of one of the regional anesthetics whenever possible

My associates and I have personally observed the use of this technic in 2,021 cases, without a single maternal or fetal mortality attributable to the use of this anesthetic We have concluded that if continuous caudal analgesia is to be used in obstetrics its success is dependent on teamwork between the anesthetists and the obstetricians Because most obstetricians with a large obstetric practice are too busy to use this technic, the ideal arrangement is to have a competent full time anesthetist manage the patient from the anesthetic standpoint, in close cooperation with the attending obstetrician

CONCLUSION

My associates and I are firmly convinced that continuous caudal analgesia has a permanent place in obstetric practice During the past two years we have learned of the many benefits derived from the use of this method in safeguarding the obstetric patient This technic is a distinct addition to the various other methods which have previously been used with safety for control of the pain of childbirth

SUMARIO

Los autores han observado, personalmente, el uso de la anestesia por la cola o canal raquídeo dorsal (anestesia caudal) en 2,021 casos sin mortalidad maternal o fetal que pudiese ser atribuida al uso de esta anestesia. Como suplemento a una relación hecha anteriormente a esta se da aqui una lista de precauciónes que se deben tomar en cuenta en el uso de este método.

Ellos están firmemente convencidos, sin embargo, de que la anestesia caudal continuada ocupa un puesto permanente en la práctica de obstetricia. En dos años últimos pasados ellos han comprobado las ventajas derivadas de este método, para resguardar al paciente de parto. Esta técnica es una contribución importante a los muchos otros métodos que han sido usados con seguridad para moderar o eliminar los dolores del parto.

RÉSUMÉ

Les auteurs ont personellement observé 2,021 cas d'anesthésie caudale. Il n'y eut aucune mortalité, maternelle ou fétale, qui puisse être attribuée à l'emploi de cette méthode d'anesthésie. Comme supplement à leur rapport antérieur, ils énumèrent beaucoup de conseils qu'il ne faut pas ignorer. Ils sont convainçu que l'anesthésie caudale continué a une place permanente dans la pratique obstétricale. Durant les deux dernières années, ils se sont aperçu que l'emploi de cette méthode sauvegarde la femme en couches. Cette technique est une addition distincte aux autres méthodes sûres employées pour controler la douler qui accompagne l'accouchment.

СВОД

Даны личные наблюдения авторов в 2.021 случаях каудальной анэстезии без единственного случая смерти матери или плода, приписанного этому способу. Дополнительно к прежнему докладу дан список «запрещений», которые необходимо принять во внимание при применении этого способа. Однако, они вполне убеждены, что продолжительная каудальная анэстезия завоевала постоянное место в акушерской практике. В последние два года они нашли, что в обережении благополучия беременной женщины этот способ является очень полезным. Эта методика является определенным добавлением к разным другим прежде употребленным способам уменьшения родильных болей.

CANCER OF THE COLON

(Continued from page 241)

7. Сотрудничество интерниста и хирурга до и после операции является неоценимым.

В этих стадиях очень важно предохранить или противодействовать появлению гипопротеинемии.

8. Лучше всего употребить спинальную анэстезию, продолжительным или фракционным способом.

9. Не должно быть несогласия со стороны врача относительно постоянной колостомии.

Перманентная колостомия продлила многие жизни, и больные опять сделались полезными гражданами.

10. В результате усовершенствования до — и после — операционного режима, особенно с суксинил-сульфа-тиозолом и лучшей операционной техникой, смертность 70%-80% прошлого поколения теперь сведена к 2%.

A Survey of Surgical Results in Cancer

WILLIAM SEAMAN BAINBRIDGE, M D, F I C S
NEW YORK, N Y

THE general feeling of hopelessness associated with cancer is almost universal among the laity and too prevalent among physicians. Any factual evidence of progress toward the solution of its cause, prevention and cure is a real boon and should be kept in mind as an antidote for pessimism.

Through the centuries from the earliest times, various theories as to etiology have been propounded, but none has become the accepted answer for long. The cancer of the ancients was considered one disease, but in the eighteenth and nineteenth centuries great advance was made by the discovery that included in this category were many entities. The other conditions were differentiated from cancerous disease; their causes were determined, and for most of them treatment was inaugurated. Leprosy, syphilis, elephantiasis, actinomycosis, blastomycosis and tuberculosis are some examples. In the twentieth century another entity was determined, in the form of Hodgkin's disease (lymphogranulomatosis). This multiplex pathology of cancer doubtless still persists, and here lie bright prospects for research and progress.

Another line of advance lies in the stressing of the prevention of malignant growth by removal of benign growths and of sites of chronic irritation that are prone to undergo degenerative change. This necessitates periodic examinations, so that such conditions may be discovered and adequately dealt with while they are still in a stage at which complete removal is possible.

Since cancer is still believed to be a local disease in its beginning and complete removal is thought to be the surest road to relief and possible cure, surgery offers the most hope to date, and gives the most encouraging results. Many other methods have been brought to the fore through the years, largely to supplant surgical treatment. There have been the Mattei electricities, Hodenpyl's serum, the enzyme treatment of Beard, the Micrococcus neoformans of Doyen, the diathermy of Nagelschmidt, Coley's fluid, and many other honestly proposed measures that have failed. In this century radium and roentgen rays have been urged as a substitute for surgical intervention. The great claims made for these have not resulted in their universal acceptance. In fact, today there are increasing disappointment and a gradual recognition of the limited field of usefulness of irradiation. My own experience leads me to the conclusion that radium and x-rays have no ferreting ability, and that their choice of cells—neoplastic or normal—is indiscriminate.

The treatment which has stood the test of time and experience is removal of the cancer mass, either by thermic, electric or chemical means or by meticulous use of the surgeon's knife with due regard to the avenues of extension. Surgical removal should be stressed as giving a real expectation of cure in early stages, and as possibly being curative as well as affording relief in well ad-

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Read at the Ninth National Assembly of the United States Chapter of the International College of Surgeons, Philadelphia, October 1944 vanced stages. With the attempt to have people come early for examination, the dire consequences of delay are so emphasized that this often robs a patient of hope, so that he puts off seeking help until it is impossible to do anything but palliate. Such emphasis engenders a condition of mental suffering which, added to the physical, is most unfortunate, especially in this age of a cancer-conscious laity.

My object is to bring into the field of well advanced cancer evidence that will arouse confidence in relief from suffering and prolongation of life, and in cure in a substantial number of cases, through surgical means.

The difficulties of tracing patients treated in any general ward or dispensary through any practical follow-up system over a space of years early impressed me. Changes in institutions and in personnel and the constant changes of addresses of patients make almost insurmountable obstacles. Accordingly, from the beginning of my private practice I inaugurated a follow-up system of the private patients. The evident personal interest shown by my sending out of letters, besides the desire to obtain data of scientific value, has borne fruit these thirty years and more.

A few years ago, in an article on "The End Results of Surgery in Breast Cancer," I cited many viewpoints for and against the use of radiation in the treatment of malignant neoplasms of the mammary gland. My own statistics were based on 223 unselected cases from my private files, in 21 of which systematic irradiation had been given over a period of time. While in some of these cases the local growth seemed to have been benefited, the extensive metastases which had developed were such as to render the patients inoperable by the time I was consulted. In 52 other cases the patients had irradiation before, and in some instances after, I operated. Five of the 52 patients survived for five years and 1 for eleven years—11.53 per cent. There remained 150 cases in which the treatment consisted of radical surgical removal only (the same procedure being followed for all), with a five year and over survival rate of 51 patients (34 per cent):

19 lived from 5 to 10 years
22 lived from 10 to 20 years
8 lived from 20 to 30 years
1 lived 31 years
1 lived 36 years

Thirty-five of these patients are still alive, free from malignant growth.

The *Transactions of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons* for 1944 will contain a paper I read in September 1944 on "Surgery of Uterine Cancer," which reports on 62 of my private cases in which surgical treatment was the only method used. Most of the growths were so far advanced when I first saw the patients that palliative operation was performed only because of the pleading of the suffering patients and the insistence of their families that something be done. Eighteen of the 62 patients (29.03 per cent) survived from six to thirty-three years; 11 are still living and apparently perfectly well:

1 lived 6 years
1 lived 7 years
2 lived 8 years
1 lived 10 years
1 lived 11 years
2 lived 12 years
1 lived 13 years
4 lived 15 years
1 lived 21 years
1 lived 22 years
1 lived 25 years
1 lived 30 years
1 lived 33 years

For advanced cancer of the uterus I have for over thirty years employed my operation of starvation ligature and lymphatic block. The shutting off of blood supply to cancerous tissue lessens the rapidity of growth and may prolong life for years even though the neoplasm cannot be totally removed.

In this paper I desire to add to the already mentioned cases of at least five year cures of cancer resulting from radical extirpation. Excluding the cases of cancer of the breast and uterus previously reported, I have reached to date in this present series, 249 additional cases in which operation was the only method employed. These embrace instances of cancer of the face, stomach, rectum, colon, parotid gland, thigh, tongue, floor of the mouth, orbit, glands of the neck, ear, hand, knee, umbilicus, nose, lip and arm. Of the 249 patients, 100 (40.12 per cent) have passed the five year survival term, as follows:

19 lived from 5 to 10 years
20 lived from 10 to 15 years
23 lived from 15 to 20 years
20 lived from 20 to 25 years
12 lived from 25 to 30 years
4 lived from 30 to 35 years
2 lived 39 years

Of these, 44 are dead, 27 have been lost track of and 29 are still living and apparently perfectly well; 32 of those who died did not have any return of the malignant growth in any part of the body.

The five year and over survival rate of the surgical patients in this series (those with cancer of the breast and of the uterus and the foregoing general series—a total of 461), with 169 survivals, is 36.74 per cent. In many of the cases, in which the growths were considered inoperable by some surgeons, heroic measures had to be taken; in some instances, even I was surprised at the outcome; in all, radical, careful, adequate surgical removal, with attention to the minutest details, was carried out, with pathologic examination often rechecked, to eliminate any possibility of doubt as to diagnosis.

CONCLUSION

In summing up, I believe that in the treatment of cancer surgical extirpation is still the method of choice and that irradiation is far from the panacea its advocates hold it to be. Devoutly it is hoped that surgical treatment may some day be discarded and means for prevention and successful treatment found in the field of medicine. The research that is being carried on today along the lines of biotherapy, chemotherapy, physiologic chemistry, the hormones, vitamin deficiency, and others, may result in a real harvest in the future.

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SUMARIO

En el pasado muchas enfermedades agrupadas bajo el nombre de cancer han sido separadas en sus respectivas entidades, tal como la sifilis, la tuberculosis y la actinomicosis; y algunos han sido hallado curables. Esto demuestra el

múltiple cuadro patológico del cancer, que indudablemente todavía existe. Más investigación y experimento podrán clarificar la solución del gran problema.

Exámenes físicos, en periodos, y excision de tumores benignos y de areas de irritación son procedimientos profilácticos.

Aun cuando muchos métodos de tratamiento han sido aclamados por años, muchos de ellos han sido abandonados y la popularidad de otros disminuye. El radio y los rayos-X no inspiran confianza y su selección de celulas neoplasticas o normales es incierto. Solo aparecen tener un efecto cauterizante.

La resección quirúrgica es el tramiento que ha demostrado eficacia. El autor está de la opinión que en el presente estado de nuestro conocimiento el mejor servicio al enfermo es practicar la cirugía radical y ademas emplear radiología y aun medicamentos que contribuyan, en el juicio del cirujana, para curar y evitar el recurrir.

Por una larga experiencia el autor ha citado sus estadisticas de los resultados de la cirugía del seno (pecho) y del utero por el cancer. En este artículo el autor somete los resultados obtenidos por intervención quirúrgica en otras partes del cuerpo, de cinco a treinta y nove años despúes de operación; los examenes histopatologicos fueron comprobados.

A pesar que la cirugía hasta la actualidad es el método de preferencia, se espera que estudios de la quimoterapéutica y la bioterapéutica, de quimicafisiologica, de los hormones y de las deficiencias de vitaminas resolverán el problema del cancer y que la cirugía se hara más limitada.

SOMMAIRE

Dans le passé plusieurs maladies qu'on avait groupées sous le titre de cancer ont été séparées dans leurs entités. Ainsi la syphilis, la tuberculose, l'actinomycose et certaines autres ont été trouvées curables. Cela nous porte à croire que des recherches futures clarifieront le sujet et aideront à résoudre entièrement le problème.

Les examens physiques périodiques, l'ablation des tumeurs bénignes et la suppression de toutes sources d'irritation constituent d'excellentes mesures préventives.

Quoique bien des modes de traîtement aient joui d'une vogue passagère, la plupart ont été abandonnés et la popularité d'autres est dans le déclin. Le radium et les rayons X ne sont pas des furets, et dans leur choix de cellules sont aveugles. Apparemment leur action est celle d'un cautère.

L'ablation chirurgicale est le traîtement qui a fait ses preuves. L'auteur préconise le traîtement chirurgical, auquel on peut ajouter ce (radiation ou médication) qui peut dans le jugement du chirurgien contribuer à la guérison ou à la prévention de récidives.

L'auteur a déja rapporté des statistiques concernant les résultats obtenus par la chirurgie dans les néoplasmes malignes du sein et de l'utérus. Dans la publication d'aujourd'hui, il soumet les rapports de cas de tumeurs malignes d'autres parties du corps. Dans chaque cas, deux pathologistes examinèrent les coupes et confirmèrent le diagnostic ici rapporté.

La chirurgie est encore la méthode de choix. Il est à esperer que des recherches en chimitherapie, en biothérapie, en chimie physiologique, en hormones, en déficience vitamine, etc., arrivent à résoudre le problème du cancer et nous portent à abandonner l'emploi du traîtement chirurgical.

(Russian summary on page 281)

DATA ON 100 CASES

No	*Name*	*Age*	*Sex*	*Operation*	*Diagnosis*	*Laboratory Report*	*Results*	*Comments*
1	HD	5	M	October 1902 Removal of part of right supramaxillary and malar bone to within inch of ear and removal of part *of canthus of right eye*	Massive angiosarcoma of face involving right maxillary and malar bones	Angiosarcoma of bone and soft parts	*October 1927, perfectly* well, desired relief of some of deformity of face because of coming marriage, plastic operation November 1920 with transplants from leg, excellent results—well *32 years*	Nov 1934, taken with chest condition, diagnosis pneumonia, died of melanocarcinoma *of lung*, mediastinum, and abdominal viscera, no paralysis of face
2	OK	49	F	December 1919 Excision of pylorus with ½ *of stomach* removed, gastroenterostomy	Carcinoma of pylorus, large ulcerated mass, no metastasis	Gastric carcinoma, no glands involved	Perfectly well for *22 years*, no return of malignant growth	Died in *1941 of cerebral* hemorrhage
3	WS	46	M	1910 Resection of transverse colon, great omentum, transverse mesocolon with glands, portion of greater curvature of stomach removed with gastrocolic *omentum, enterosigmoid*ostomy	Advanced carcinoma of transverse colon	Adenocarcinoma of transverse colon	Excellent health for *25 years*, no local return	Died 1938 of cancer of prostate
4	LF	45	M	November 1909 Excision of rectum, one stage, modified Kraske 1911 Removal of slight recurrence at new outlet	Carcinoma of lower part of rectum	Adenocarcinoma	Lived *23 years* free from cancer	In spite of extensive operation by using gluteal muscle, had excellent control throughout the 23 years of life, died without any cancerous disease
5	IZ	56	F	March 1924 Excision of rectum and entire pelvic colon by combined method, enlarged glands along mesentery of lower part of *bowel removed en masse*, intestine brought down to rectal outlet and sphincter reformed	Carcinoma of rectum	Carcinoma	Well, no return, February, 1944, *20 years* later	Only discomfort is some constipation, a few times a year has to have sphincter dilated at office

No.	*Name*	*Age*	*Sex*	*Operation*	*Diagnosis*	*Laboratory Report*	*Results*	*Comments*
6	JH	49	M	November 1912 Posterior gastroenterostomy December 1912 Partial gastrectomy	Carcinoma of stomach	Adenocarcinoma of stomach; glands normal	*18 years* alive and well; patient lost track of	Condition was so poor that it was considered hazardous to do both operations at same time; in 8 weeks between the two, patient's condition improved remarkably, but at second laparotomy growth on anterior wall of stomach had extended considerably and some enlarged glands appeared
7	GH	54	F	1909 Combined operation using vaginal outlet; removed 2½ feet (75 cm.) of rectum and pelvic colon with mesorectum and mesosigmoid; sphincter and last 2 inches (5 cm.) of rectum saved; brought cut end of intestine down into pelvis and attached it to rectum just above anus.	*Carcinoma of* lower part of colon	Adenocarcinoma of rectum	Alive and well *for 15 years;* no recurrence in abdomen	Died November 1924 of pulmonary edema, pneumonia; probable carcinoma of lung; no autopsy
8	WS	59	M	May 1915 Excision of rectum and pelvic colon	Carcinoma of bowel	Adenocarcinoma of rectum; 3 plus Wassermann reaction	No return; died May 1926, *11 years* later, cause unknown	
9	GVC	34	M	March 1916 Radical operation with removal of entire parotid gland	Mixed tumor	Malignant mixed tumor of parotid gland	Well for *21 years;* lost track of in 1937	No facial paralysis
10	HG	19	F	August 1916 Midthigh amputation	Sarcoma of knee	Sarcoma	Well and strong August 1944, *28 years later*	Wears well fitted artificial leg; almost forgets handicap; is successful editor

11	MA	34	F	April 1905 Amputation of right thigh at hip joint	Carcinoma in old scar of thigh extending to groin	Carcinoma	Perfectly well in 1940, *35 years* later, no recurrence	Before amputation had many operations by other surgeons for repeated recurrences
12	SS	49	F	October 1936 *Radical amputation of* left breast, with removal of left axillary contents	Carcinoma	Adenocarcinoma	No return August 1944, *8 years*	
13	JL	10	F	January 1923 Excision of a massive tumor of neck with all *glands on* left side, tumor involved external and internal jugular *veins* and *sternocleido* mastoid muscle, all removed en masse	Malignant neoplasm	Angiosarcoma	Well for *20 years*, has married and has 2 healthy children	Several times has had an infected throat and twice a small supramaxillary abscess on left side, but no recurrence of malignant growth
14	ED	24	M	May 1911 Excision of part of jaw including epulis at site where *two teeth had been* removed	Malignant epulis	Round cell sarcoma	Well for *7 years*, lost track of in 1918	
15	HS	10 mo	M	May 1905 Removal of angiosarcoma of face involving inner canthus of left eye, side *of nose* and *extending* almost to lower lip	Angiosarcoma of face	Angiosarcoma	Well for *39 years*, no return	In operating on so extensive a growth in patient of early age of 10 months and with great danger of hemorrhage, operator performed operation in two stages, first coagulation of larger vessels and then excision
16	BG	46	F	April 1909 Removal of epithelioma of left orbit, involving eyelid and eye June 1909 Cavity of orbit curetted, part of frontal bone and	Epithelioma	Epithelioma, vasocellular	Well with no return in *20 years*	After operation, wound leaked cerebrospinal fluid for some days

No.	Name	Age	Sex	Operation	Diagnosis	Laboratory Report	Results	Comment
				orbital plate removed; dura mater, a portion of which was exposed (*the size of a* 10 cent piece), was involved December 1909 Plastic repair with flaps and skin *grafting*				
17	TJ	53	M	May 1917 Excision of all glands of right side of neck with ligation of external carotid artery on same side and all its branches except temporal June 1917 Ligation of external carotid artery and all its branches except temporal on left side	Malignant growth	Malignant mixed tumor of glands of neck	Lived *7 years,* during part of which time he served in war in Y. M. C. A. work; no recurrence; died of acute heart block following pneumonia, September 1924	General condition of patient too poor to perform both operations at one time
18	SS	60	F	May 1908 Recurrent epithelioma of inner canthus of eye, orbit and antrum; complete removal of all diseased tissue, which included portion of nasal process of superior maxilla	Epithelioma	Epithelioma	Well for *15 years;* no recurrence; *later lost track* of	Later had skin graft *from arm*
19	TM	49	M	March 11, 1904 Both lingual arteries tied; both submaxillary glands with ducts that enter mouth removed; also many enlarged sublingual and lymphatic *glands from region of* left tonsil to dome of the pleura; similar complete removal of glands on right side; forced mouth open and cauterized cauliflower mass with Paquelin cautery	Carcinoma	Carcinoma of tongue and glands	Lived without any recurrence for *8 years;* during this time he married and had one child; able to talk; died in 1914 of pneumonia	Between 1st and 2d operation, fed for a time through rectum and gained rapidly; weight when patient entered hospital was 129 pounds (58 Kg.); when he left it was 139 pounds (63 Kg.); in 4 years it was 160 pounds (72 Kg.)

				March 28, 1904 Entire tongue and part of floor of mouth removed May 1912 and June 1912 Cauterized small ulcer on floor of mouth				
20	LR	41	M	June 1907 Removal of growth on tip of tongue, including a wedge shaped section of healthy tissue	Carcinoma	Squamous cell carcinoma of tongue	Well for *10 years*, then lost track of	
21	FT	63	M	April 1909 Excision of epithelioma of lower lip, left side and removal of all glands of neck	Epithelioma of lip	Epithelioma, actively malignant	Well for *21 years*, no return, disease beginning *extension on mucous* membrane along buccal wall	Died of prostate disease with renal complications, *Jan 1930*
22	OW	48	M	January 1913 Removal of angioma with ulcer size of a 50 cent piece, of lower lip involving floor of mouth and extending to left angle of jaw and down on sternum, two stage operation (first ligating vessels and then excising ulcerated area of lower lip)	Epithelioma or angioma	Epithelioma and angioma	Well for *15 years*, no return of malignant growth	
23	EN	59	F	December 1914 Excision of part of superior maxilla into antrum and removal of portion of upper lip	Carcinoma	Carcinoma	Well for *30 years*, last report, in Aug 1944, in excellent condition	
24	DP	60	M	May 1908 Radical removal of growth of orbit, lids and tissue of cheek	Cancer of face and orbit	Epithelioma	Well for *26 years*, died in 1934 without any return of cancer	

No.	Name	Age	Sex	Operation	Diagnosis	Laboratory Report	Results	Comments
25	OL	57	M	May 1912 Removal of extensive sarcoma of left side of neck involving internal jugular vein, external and anterior jugular veins and sternocleidomastoid muscle and glands	Sarcoma of neck	Melanotic sarcoma	Well for *18 years*; no return of sarcoma; killed in automobile accident in 1930.	Had pneumonia in 1925 and rectal abscess in 1929
26	LH	70	M	January 1909 Removal of left half of tongue with submaxillary and cervical glands on left side of neck	Epithelioma	Epithelioma	Well for *18 years*; no return of trouble	Died in 1927, at 87 years; no cancer present
				January 1913 Excision of ulcer of tongue	Ulcer	Nonmalignant ulcer of tongue		
				January 1916 Excision of early epithelioma of lip	Epithelioma	Epithelioma		
27	TF	37	M	December 1908 Castration of left testes and inguinal gland	Sarcoma	Sarcoma, spindle cell	Well for *10 years*	Died in 1918 of perforated gastric ulcer
28	MF	37	M	March 1922 Wide excision of mucous membrane of buccal wall	Cancer of buccal wall	Early epithelioma	No return 7½ *years* later, Dec. 1929	
29	VW	60	M	December 1908 Excision for advanced epithelioma of ear inside of concha and also glands of neck	Epithelioma	Epithelioma	Well for *18 years*; no return	Lost track of
30	MY	67	M	April 1915 Tied off external carotid and its branches; excision of extensive recurrent carcinoma of ear involving glands of neck and temporal region	Carcinoma	Carcinoma	Well for *16 years*	Cause of death unknown

31	EC	39	F	1908 Excision of malignant carcinomatous epulis of lower jaw 1920 Excision of cyst of inferior maxilla, not at site of previous growth	Epulis Bone cyst	Carcinoma	Well for *20 years*, no recurrence No return in *8 years*	Last heard from in Sept 1928
32	WB	30	M	January 1907 Excision of large tumor of parotid gland with entire gland	Sarcoma	Myxosarcoma	Well for *30 years*, no return	Died in 1937
33	PF	28	M	June 1911 Excision of part of ear with cartilage, and part of lining of auditory canal	Chronic inflammation, precancerous	Malignant degeneration	Well for *29 years*, no return	
34	SA	55	M	February 1915 Excision of growth in mucous membrane of buccal wall with parts of floor of mouth and lower jaw, removal of glands of neck on diseased side March 1915 Plastic operation	Extensive epithelioma of buccal wall and beginning cancer of inferior maxilla	Epithelioma, prickle cell type, glands of neck hyperplastic	Well for *23 years*	Died in 1938 of acute pneumonia
35	LC	33	M	May 1911 Excision of malignant epulis of superior maxilla involving antrum	Malignant epulis	Degenerating epulis	Well for *5 years*	Last heard from in April 1916
36	JG	41	M	January 1921 Excision of parotid gland with massive tumor and glands of neck on same side facial nerve saved	Sarcoma	Round cell sarcoma of parotid and neck glands	Well for *13 years*, *no* return	

No.	Name	Age	Sex	*Operation*	*Diagnosis*	*Laboratory Report*	*Results*	*Comments*
37	AG	46	M	May 1912 Excision of recurrent epithelioma of hand between small and ring fingers; amputation of part of hand and two fingers; bone involved.	Epithelioma	Epithelioma, prickle cell type, recurrent	Well for 28 *years*; no return	Died in March 1940; was a roentgenologist; condition of hand was due to x-ray burns
38	FG	53	F	October 1917 Excision of growth of right knee	Undetermined	Giant cell sarcoma	Well for 22 *years*; no return	Died November 1939 of cancer of intestines
39	AI	40	M	October 1907 Removal of extensive epithelioma of lower lip and glands of neck on same side	Epithelioma	Epithelioma of lip with involvement of glands of neck	Well for 16 *years*; no return	In March 1923 had a slight plastic operation to enlarge mouth, which had contracted
40	JK	20	F	January 1918 Removal of multiple cysts of parotid region and back of leg	Malignant tumors, nature undetermined	Multiple congenital epidermoid cysts with epitheliomatous change	Well for 16 *years*; no return	Last seen in January 1934
				June 1924 Removal of growths from various parts of body: arm, abdomen, near eye	As above	As above		
41	JK	54	M	January 1928 Excision of carcinoma of lower lip and glands of neck on same side	Carcinoma	Squamous cell carcinoma of lip; glands normal	Lived 11 *years*; no local recurrence	Died in May 1939 of cancer of stomach
42	NL	52	M	October 1930 Excision of parotid tumor, sublingual and submaxillary glands, and glands of neck on same side	Malignant tumor of parotid gland	Adenofibroma with malignant degeneration	Well for 14 *years*	Last seen in Aug. 1944

43	AB	41	M	August 1918 Excision of recurrent growth of left side of mouth, tying off of external carotid artery in two places, excision of glands of neck down to pleura	Advanced carcinoma of mouth and neck	Carcinoma	Well for *5 years*, lost track of since October 1923	In May 1918 was operated on by another surgeon and given up as inoperable
44	HG	40	F	January 1931 Removal of entire umbilicus and obliteration of umbilical vein to edge of liver and of urachus to fundus of bladder	Early malignant growth	Fibroadenomyxoma dynamically malignant	Well for *18 years*, no return	Last seen February 1944
45	TD	40	M	May 1913 Extensive excision of epithelioma of mouth and entire inferior maxilla February 1914 Excision of small recurrent growth May 1916, April 1917, March 1921 and October 1926 Plastic operations	Carcinoma	Carcinoma	Well for *17 years*, no return, last seen January 1931	After extensive removal of entire lower jaw and glands of neck both sides, part of tongue and floor of mouth, had excellent repair with 4 plastic operations, presentable appearance
46	CB	40	M	February 1927 Excision of carcinoma of lower lip, removal of all glands of right side of neck, including submaxillary and sublingual	Carcinoma	Squamous cell carcinoma, extensive invasion of glands, acute and chronic lymphadenitis	Well for *5 years*, no return	Lost track of since 1932
47	[illegible]		M	1907 Removal of epithelioma upper lip on cheek patient had [illegible] with x rays for [illegible] rrence in 1906,	Epithelioma	Epithelioma	Well for *22 years*, no recurrence	Excessive smoker, died in 1929 of carcinoma of jaw

No.	Name	Age	Sex	Operation	Diagnosis	Laboratory Report	Results	Comments
48	NM	27	F	November 1914 Removal of extensive epithelioma of dorsum of right hand and parts of two fingers	Epithelioma	Epithelioma	Well for *30 years;* no recurrence; last seen June 1944	Had been advised by another doctor to have arm amputated at shoulder to save her life, so extensive was cancer
49	CC	27	F	February 1926 Cauterization of ulcerating area on face and removal of entire cancerous mass by elliptic incision	Ulcerating cancer of lower lip and chin	Squamous cell carcinoma	Well for *18 years;* no recurrence; last seen July 1944	Cancer due to electrical removal of hair on face and chin by another doctor; disease began in these scars
50	HL	60	M	January 1917 Excision of small angiosarcoma of forehead August 1925 Excision of carcinoma of cheek	Angiosarcoma Epithelioma	Angiosarcoma Squamous cell carcinoma	Well for *27 years;* last seen August 1944	No recurrence of either growth
51	AK	37	F	October 1905 Removal of epithelioma on bridge of nose February 1927 Removal of beginning epithelioma on face in areas of keratosis	Epithelioma Epithelioma	Epithelioma Epithelioma	Last report Sept. 1940, in excellent condition No return for *22 years,* 1905 to 1927	Removal of ulcerative lesion on face and nose by another surgeon in 1937; laboratory report, epithelioma
52	MS	66	F	April 1916 Excision of epithelioma of face under eye and extending toward alae nasi	Epithelioma	Pigmented ulcerated area in skin; basic degeneration of stroma and areas of small round cells	Well for *28 years;* no return	
53	WS	54	M	June 1917 Excision of small epithelioma of lower lip; bileral V-shaped incision through normal tissue	Epithelioma	Epithelioma	Well for *27 years;* no return	

54	IN	12	F	January 1915 Complete excision of an giosarcoma size of half a hen's egg on forehead	Angiosarcoma	Angiosarcoma	Well for *15 years*, no return	
55	AT	55	M	February 1936 Removal of penis, with glands in inguinal and femoral region on both sides	Carcinoma	Squamous cell carcinoma	Last report, August 1944, *8 years* later, patient doing well	
56	ER	56	F	August 1919 Excision of epithelioma of cheek	Epithelioma	Epithelioma	Well for *25 years*, no recurrence	
57	TM	60	M	December 1915 Excision of epithelioma of parotid region of face	Epithelioma	Epithelioma	Well for *9 years*, no return at site of growth	Died of pneumonia Dec 1924
				November 1920 Excision of epithelioma of wing of left ear	Epithelioma	Epithelioma, prickle cell	No return at time of death	
58	FP	70	M	March 1914 Excision of epithelioma of finger	Epithelioma	Epithelioma	Well for *10 years*; no return	Died in 1924
59	GH	40	F	February 1914 Excision of epithelioma of cheek	Epithelioma	Epithelioma, basal cell	Well for *5 years*, no return	Died of influenza March 1919
60	WG	58	F	*May 1920* Excision of ulcerated epithelioma of face	Epithelioma	Epithelioma	Well for *5 years*, no return	Died of cerebral paralysis 1925
61	LB	64	F	January 1921 Excision of ulcerating epithelioma from dorsum of left hand	Epithelioma	Epithelioma	Well for *19 years*, no return	Died in Feb 1940 of chronic arteriosclerosis and chronic myocarditis

No.	*Name*	*Age*	*Sex*	*Operation*	*Diagnosis*	*Laboratory Report*	*Results*	*Comments*
62	SE	51	M	April 1912 Excision of part of upper lip for epithelioma	Epithelioma	Epithelioma, squamous cell	Well for *12 years;* no return	Died in Dec. 1924 of arteriosclerosis
63	GQ	19	M	March 1914 Excision of epulis of lower jaw	Epulis	Low grade malignant growth	Well for *17 years;* no return	Died in July 1931 of cirrhosis of liver
64	SP	66	M	December 1912 Excision of epulis of superior maxilla	Epulis	Small round cell sarcoma	Well for *11 years;* no return.	Died in Feb. 1926 of cancer of rectum
65	AE	70	F	December 1934 Excision of degenerating wart from tip of chin	Carcinoma	Squamous cell carcinoma	Well for *10 years;* no return	Last seen Sept. 1944
66	CT	45	M	May 1915 Excision of epithelioma of nose	Epithelioma	Carcinomatous ulcer	Well for *19 years;* no return	Died in May 1935 of carcinoma of prostate
67	AC	40	M	February 1914 Excision of epithelioma of lower lip; ulceration size of 10 cent piece; no glands palpable	Epithelioma	Epithelioma	Well for *30 years;* no return	Last report Aug. 1944
68	CD	72	M	July 1920 Wide excision of epithelioma in labial crease under right eye	Epithelioma	Epithelioma	Well for *18 years;* no return	Died in Jan. 1938 from heart attack
69	CC	66	M	March 1913 Excision of epithelioma of right side of nose; excision of epithelioma of abdominal wall	Epithelioma of nose and abdominal wall	Epithelioma	Well for *20 years;* no return	Died in July 1933 of fractured hip
70	MC	57	F	March 1907 Excision of epithelioma of forehead	Epithelioma	Epithelioma	Well for *7 years;* no return	Lost track of

71	WA	44	F	August 1917 *Excision of epithelioma of nose*	Epithelioma	Epithelioma	Well for *10 years*, no return	Lost track of
72	CH	50	F	December 1918 Excision of growth size of a hen's egg from left submaxillary gland	Sarcoma	Myxosarcoma	Well for *26 years*, no return	Last seen Aug 1944
73	JG	52	F	May 1924 Excision of epithelioma of face	Epithelioma	Epithelioma	Well for *20 years*, no return	Last report Sept 1944
74	AK	76	F	December 1916 *Excision of carcinoma of* upper jaw	Malignant epulis	Malignant epulis	Well for *19 years*, no return	Died in 1935 of acute pneumonia
75	CV	70	F	January 1920 Excision of growth of left temporal region	Epithelioma	Epithelioma	Well for *11 years*, no return	Lost track of
76	CV	72	M	January 1915 Excision of growth on face	Epithelioma	Squamous cell carcinoma	Well for *16 years* no return	Died in March 1931 of old age
77	JL	4	M	April 1915 Excision of melanotic mole of face at outer canthus of eye	Early malignant growth	Melanoma of face showing areas of malignant growth	Well for *21 years*, no return	Last seen June 1939
78	ON	54	M	February 1917 Excision of epithelioma of nose	Epithelioma	Basal cell epithelioma	Well for *7 years* no return	Died in 1925, committed suicide
79	CM	44	M	November 1913 Excision of epithelioma of upper lip between wing of nose and angle of mouth	Epithelioma	Epithelioma	Well for *23 years*, no return	Died in July 1936, cause of death unknown

No.	*Name*	*Age*	*Sex*	*Operation*	*Diagnosis*	*Laboratory Report*	*Results*	*Comments*
80	HM	75	F	August 1925 Excision of epithelioma of face over zygoma	Epithelioma	Malignant degeneration	Well for *11 years;* no return	Last seen in 1936
81	EL	62	M	November 1909 Excision of epithelioma of cheek and also nodule of neck on same side	Epithelioma	Squamous cell epithelioma	Well for *7 years;* no return	Lost track of
82	FP	67	F	March 1916 Excision of epitheliomatous ulcer of cheek	Epithelioma	Epithelioma, basal cell	Well for *12 years*	Died in July 1929 of diffuse cancer; apparently free of trouble for 12 years
83	IS	45	M	December 1912 Excision of epithelioma, size of a French pea, posterior to left ear over mastoid process September 1930 Excision of epithelioma of left temporal region; wound closed by flaps	Epithelioma Epithelioma	Epithelioma Carcinoma, basal cell	Well for *18 years;* no return	Lost track of since 1930
84	LP	71	F	November 1917 Excision of epithelioma of face, size of end of a pencil	Epithelioma	Basic degeneration of stroma	Well for *16 years;* no return	Died in January 1933 of heart attack
85	CEM	65	F	February 1938 Radical amputation of right breast, with removal of contents of right axilla; cutaneous growth of right thigh excised	Adenocarcinoma	Adenocarcinoma Fibrosarcoma	August 1944, *6 years* later, patient perfectly well; no return No recurrence	
86	FF	50	F	1908 Excision of epithelioma on eczematous base back of ear	Epithelioma and eczema	Epithelioma	Well for *23 years;* no return	Last seen in 1931

87	EV	54	F	March 1921 Excision of melanotic mass of cheek, size of a dime	Early malignant growth	Melanotic papilloma with beginning epithelioma	Well for *23 years*, no return	Last report March 1944
88	JL	65	M	April 1909 Excision of epithelioma of left temporal region	Epithelioma	Epithelioma	Well for *9 years*	Radium off and on by a specialist from 1918 to 1922 for growth of fore head, died in 1924 of arteriosclerosis
				June 1922 Excision of extensive growth of right ear	Epithelioma	Epithelioma, squamous cell	No return in 1924	
89	ED	41	M	March 1912 Excision of extensive ulcerating epithelioma of lower lip and submental glands, both sides involved	Epithelioma	Epithelioma of lip and carcinoma of glands	Well for *23 years*, no return	Killed in an accident in Jan 1935
90	JL	58	M	May 1912 Excision of epithelioma of cheek, size of a dime	Epithelioma	Epithelioma, basal cell	Well for *32 years*, no return	Is now 91 years old
91	BJ	54	F	October 1934 Excision of large scar involving entire posterior aspect of both forearms with bilateral carcinomatous degeneration, result of x ray burns October 1934 (1 month later) Plastic operation	Scar and malignant growth	Squamous cell carcinoma, typical of x ray burns	Well for *10 years*, no return	X rays used for removal of superficial hair
92	IC	60	F	August 1924 Excision of papillomatous ulcer on buttock	*Cancer*	Papilloma in transition stage to squamous cell carcinoma	*Well for 10 years*	*Died in Oct 1934*
				April 1928 Complete amputation of right breast for cancer	Cancer	Scirrhous carcinoma, glands not involved		

No.	Name	Age	Sex	Operation	Diagnosis	Laboratory Report	Results	Comments
93	KA	64	F	December 1913 Excision of small mass in skin on left side of neck; removal of small angioma under arm and also under breast	Epithelioma	Epithelioma, prickle cell Angioma cavernosum	Well for *18 years;* no return	Died in 1931 of "old age"
94	JN	37	M	February 1912 Excision of cancer of lower lip and glands of neck; ulcer ¾ inch (1.9 cm.) wide	Malignant ulcer of tongue	Epithelioma, glands of neck not involved	Well for *7 years;* lost track of patient	Active, acute antisyphilitic treatment for many months; ulcer continued to extend; operation advised when I first saw him
95	MC	62	F	September 1925 Excision of malignant growth of face anterior to ear	Probable epithelioma	Mixed cell sarcoma	Well for *11 years;* no return	Died in March 1936; cause of death unknown
96	CA	38	F	March 1912 Excision of epithelioma of upper lip	Epithelioma	Epithelioma	Well for *21 years;* no return	Died in March 1933 of acute heart attack
97	RH	51	M	December 1927 Excision of growth of right wing of nose, small papilloma of neck and small mass of right ankle	Probable malignant growth Papilloma; fibroma	Squamous cell carcinoma Papilloma, non-malignant; fibroma	Well for *13 years;* no return	Died in June 1940 of heart attack; had been in excellent health
98	MW	58	M	April 1909 Excision of ulcerating epithelioma on side of nose	Epithelioma	Epithelioma	Well for *13 years;* no return	Last seen March 1922
99	BS	40	M	March 1927 Excision of growth on tip of nose	Early malignant growth	Myxosarcoma	Well for *17 years;* no return	Last seen March 1944
100	HD	29	M	June 1926 Excision of malignant growth of forearm	Carcinoma	Squamous cell carcinoma	Well for *18 years;* no return	Last seen April 1944

СВОД

В прошлом разные болезни сгруппированные под именем рака были разделены по их происхождению, именно сифилис, туберкулез и актиномикоз Некоторые были вылечимы Это показывает многосложность патологической картины рака, которая безусловно еще существует Дальнейшие исследования могут помочь разрешить всю задачу

Периодические физические исследования с удалением доброкачественных опухолей и раздраженных частей являются хорошими предотвратительными мерами

Хотя в течение лет были провозглашены многие способы лечения, большинство было найдено безполезным, а популярность других уменьшается Радий и рэнтгеновские лучи не обладают разыскивающей способностью В выборе клеток они не различают между неопластической или нормальной тканью Их действие, главным образом, прижигающее

Хирургическое удаление является одним способом, который выдержал пробу времени Автор думает, что при теперешнем состоянии нащего знания, интерес пациента обслуживается лучше всего посредством, во-первых, применения всего, что может дать хирургия, а затем только, добавляя все остальное радиация, медикаменты, которые бы могли, по мнению хирурга, помочь полному выздоровлению или предотвращению рецедива

Из всего широкого опыта автор уже раньше сделал статистический доклад о результатах хирургии при злокачественности грудной железы и матки В этом же докладе автор дает отчет хирургии на других частях тела, наблюдение над которыми продолжалось от пяти до тридцати девяти лет В каждом случае два патолога сделали исследование и подтвердили диагноз

Хотя хирургия пока еще является лучшим способом, автор надеется, что прогресс химотерапии, биотерапии, физиологической химии, изучение гормонов, исследование недостатка витаминов, и т д, сумеют разрешить проблему рака до такой степени, что хирургия сделается лишней

ACTIVITIES OF BOARD OF TRUSTEES

(Continued from page 232)

Section 5

Masters

The Master's degree shall correspond to the honorary degree of most organizations, and is to be conferred only in recognition of some great and outstanding accomplishment in surgery, whereby humanity has benefited The degree of Fellow or Master may be bestowed on persons living or dead, whether members of the International College of Surgeons or not

Section 6

Emeritus

The title of Emeritus shall be conferred upon members of the International College of Surgeons in recognition of long and distinguished service as an officer of the College

Section 7

Regents

1 *National Regents* shall be those who have been appointed National Heads of their respective countries, they shall organize and direct Territorial Regents and Specialty Regents appointed in their respective territories

2 *Territorial Regents* shall be those who have been appointed to organize and direct the activities of the College in their appointed territories

3 *Specialty Regents* shall be those whose duty it is to supervise progress and organize their respective specialties in their appointed territory Their activities shall be submitted to the Territorial Regents for approval

4 *National Regents* and *Specialty Regents* shall be elected by the authorized officers of the Chapter *of each respective country* If no Chapter is yet constituted, the membership of the country shall choose its officers

Section 8

Diplomas

1 Any candidate who has been duly elected to any class of membership and who has complied with his financial obligation to the College shall receive a diploma of membership in the College

(Continued on page 289)

IN MEMORIAM

JOHN J. LOOMIS, M.D., F.I.C.S.

John J. Loomis
1893–1945

Dr. John J. Loomis died on March 21 in Durango, Colo., where he had moved a year previously, after ill health forced him to retire from his practice in Lincoln, Neb.

He was born in Clinton, Mass., in 1893 and moved to Hay Springs, Neb., when he was 9 years old. He attended the University of Chicago and later graduated from Loyola University School of Medicine. After internship in St. Mary of Nazareth Hospital, Chicago, he did postgraduate work in Dublin, Ireland, and in Vienna, Austria.

For about twenty-five years during his surgical practice in Lincoln, Neb., he was closely associated with Charles H. Arnold, F.I.C.S. He was chairman of the department of obstetrics at Bryan Memorial Hospital in Lincoln and on the staff of St. Elizabeth's Hospital.

Dr. Loomis was a member of the Nebraska State Medical Society and of the American Medical Association. He was one of the first Fellows of the International College of Surgeons and in 1936 was appointed a Specialty Regent in Obstetrics and Gynecology.

Dr. Loomis is survived by his wife. His death was a shock both to his friends in Nebraska and to his associates in the International College of Surgeons.

LEMUEL WEYHER KORNEGAY, M.D., F.I.C.S.

Dr. Lemuel W. Kornegay died suddenly on Dec. 18, 1944, at the age of 64.

After preliminary education in the public schools of his birthplace, Mount Olive, N. C., he attended Davidson College and the North Carolina Medical College and served an internship at St. Francis' Hospital, Jersey City, N. J. He did postgraduate work at the New York Polyclinic Medical School and Hospital and at the New York Post-Graduate Medical School and Hospital. He participated in the first International Postgraduate Tour to Europe, in 1925.

During his years of practice of general surgery in Rocky Mount, N. C., where he died, he was chief surgeon at the Rocky Mount Sanatorium.

Several case reports and general articles on surgical subjects by Dr. Kornegay were published in the proceedings of his local and state medical societies and in the North Carolina State Medical Journal.

Dr. Kornegay was a member of the North Carolina State Medical Society, the Southern Medical Association and the American Medical Association. He was made a Fellow of the International College of Surgeons in 1942 and was a loyal member of this organization.

Editorials

Medicine in a Mad World

TODAY the world is mad Vibrating, clanging rhythms of forces of evil have been loosed, and there *is no corner of the earth from which the* blare of hatred does not echo and re-echo Now that the rhythms begin to break, now that the evil music loses its force, it is well to remember how nearly they have engulfed the world It is well to remember that their work of dementing mankind might have been complete except for the answering, conquering rhythms ringing in the hearts of free men, and that it still may become complete if these combative rhythms are not kept alive

The service which physicians and their affiliates in the nursing and hospital professions have gladly proffered during the military struggle has gone far beyond the requirements which their governments have laid upon them This service has meant the voluntary sacrifice of material profits It has meant the even greater sacrifice which comes when young and promising scientists leave the laboratories in which they might have enriched the medical knowledge of the world, to go out into combat areas It has meant the assumption of prodigious burdens by older men who have reached years in which they should reasonably expect to enjoy the fruits of their toil Careful planning has gone into the effort, planning directed to the most effective use of every medical and surgical resource available, so that the *needs of the battlefields might be met* and the needs of the home front not too sorely neglected

The role of the physician in war is always somewhat anomalous In a world where death and destruction have become the acknowledged objectives, he continues to serve life and to carry forward his work of conservation which knows no distinction between enemy and friend It seems anomalous, moreover, that periods of gigantic warfare should be also periods of gigantic advances in the arts of healing

In the first World War, plastic surgery was reborn as it undertook the hitherto impossible in the restoration of mutilated bodies Orthopedic surgery, likewise, had its greatest period of development during the war years In the decades of peace that followed, both of these branches of surgery continued to win brilliant victories over deformity and mutilations of accident and disease Under the necessity of sparing the strength of fighting personnel at the front line and the strength of accessory personnel, such as nurses, the giving of direct blood transfusions to the wounded had to be curtailed, and the use of canned blood was given a thorough, fundamental adaptation on a grand scale Even the laymen know of the life saving use of preserved blood and the development of blood bank

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Based on an address given at a combined meeting of the Tennessee Division of the International College of Surgeons and the Knox County Medical Society, June 8 1945 service that followed the wartime pioneering in this field. Out of the first World War came these and many other advancements in surgery. Today, on battlefields all over the world, physicians and nurses are performing miracles under the pressure of necessity. Surgeons, operating in grossly contaminated fields, perform major emergency operations, using the new drugs, choosing suture material and technics to avoid postoperative complications, to allow very early transportation of patients back from the battlefront, under operative and transportation conditions far from the ideal—doing their emergency work so as to give the reconstructive surgeon the best opportunity for later restorative work.

Hammered out on the forge of Mars, such technics become the tools for the amelioration of pain and the conquest of death in peacetime also.

For one who has been practicing surgery for a long time, it is breath taking to stop and realize how swift and revolutionary have been the advances within his own lifetime. It is even more breath taking to think in terms of the lifetime of a country like the United States. A little more than a century and a half ago, this was a newborn nation. In that day, surgery was practically a sealed book. Pasteur, Koch, Wassermann and Curie were unknown names. Jenner and Lister were considered as rather dangerous crackpots. A woolen sock was considered a good cure for a sore throat. Old wives' potions were recommended for everything from ingrown toenails to catching a husband.

In those days, too, a hospital was a place to die in. "Abandon hope, all ye who enter here" might well have been the inscription over the door. For paupers who had no choice the doors opened into a place of hopeless doom. No one would have dared suggest that the gentry, who could pay for medical care, should risk their lives and their chances of recovery by going to a hospital. It is strange to remember this today, when the first thought of rich and poor alike when serious illness strikes is to get the patient as quickly as possible to the nearest hospital so that he may have the advantage of the best medical and surgical care.

Some of the most significant changes which the surgeons of today have watched have occurred in the realm of interrelationships between the various branches of the medical profession. There was a day, not so very far in the past, when medical men thought that the surgeon's job of discovering and extirpating diseased tissues and organs was almost wholly independent of the therapeutist's work. Today this attitude has happily been abandoned. Cognizance has come that medical, surgical, chemotherapeutic and electrotherapeutic skills must be as closely coordinated in the art and science of healing as are the functions of the body toward which that art is directed.

Interdependence is the key word which not only describes medical and surgical tendencies today but also points the way for future development. And because interdependence is also the key word in the International College of Surgeons, the role which we are called upon to play in the days ahead is both great and solemn.

The needs of the world today cannot be considered on a purely national basis. The same forces of evil which have burst forth in blaring, pounding rhythms in some areas of the world are present in other areas as muted discords or as echoes. The massing of the military and other forces of certain nations against those of other nations, even with the achievement of supremacy by one group, cannot solve all the problems Clear thinking, democratic, humanitarian people in all fields of endeavor must unite on an international basis in an attempt to deal with the specific effects of the war and with the physical and mental ailments of all humanity

We in the Americas are only beginning to realize the extent to which the devastation of war has crippled our brother surgeons in lands less fortunate than ours We are only now realizing the meaning of the destruction which has laid waste hospitals, apothecaries, schools and laboratories, has deprived the world of healers fallen too young on battlefields, and has left in its wake poverty, both material and spiritual These only patient and earnest practice of the art of cooperation and cultivation of the spirit of brotherhood can alleviate

For an international organization such as ours there are special problems inherent in the present and casting a shadow on the future We know that in the Nazi ridden lands the holy profession of healing has been poisoned and perverted We read with horror of science and medical art serving as handmaids to brutality and crime The bestiality of mass murder becomes the more intolerable as we know that it has called to its service the skills and knowledge which should have been dedicated to the service of life

We know that there are physicians and surgeons in the world whose bloody hands can never again clasp ours in brotherhood We know that we must steel ourselves to stern dealing with them, even with those who in a happier world seemed to us to possess skills and knowledge which our profession needed But it is not enough to bar the gates against such men turned monsters Somehow we must find a way to reach those young men, and older men too, whose minds are unpoisoned with Nazism and fascism, whose hearts are in their profession, whose hands and spirits have the skills which can rebuild in their own lands the true temples of Aesculapius

Our "international passports," opening the way for young surgeons to receive counsel and instruction of their peers all over the world, are going to be of special significance in the days ahead We must see to it that these passports are fully honored, that no young student searching for the scientific knowledge which has been all but rooted out in his own land asks help from us in vain We must plan and work so that the channels of communication which make it possible for the physicians of the world to present a united front against disease, suffering, hypocrisy and intolerance are kept open, improved, broadened We in the more fortunate countries must learn generosity, must find joy in giving rather than in gaining for ourselves prestige and power

The challenge of the future to the medical profession is apparent even in the more fortunate lands In the United States, 40 per cent of the youth called up for military service were found unfit to serve In this same country, in the days when every man hour of labor counted so desperately, workers lost 41 times as many days because of illness—just the common illness which one takes as a matter of course—than were lost because of strikes and lockouts We have learned to conquer diseases like typhoid, diphtheria and even pneumonia But there are chronic diseases which take their regular toll in life and in energy which are still unbeaten enemies to human welfare

The challenge is here for the healers of mankind Frontiers still remain to be pushed forward by a new generation of pioneers. The future of medicine and surgery is yet more full of possibilities than its past. But who will meet the challenge, explore the wildernesses, carry the torch of medical knowledge into the still dark corners of the earth?

This is not just a rhetorical question. It is one which troubles many physicians today. On the home front the responsibilities of carrying forward medical knowledge now rest upon the shoulders of those who were too old to go to war or too young to have acquired the medical and surgical training needed in the armed forces. When the war ends, many of the physicians and surgeons now on the fighting fronts will come home able to resume their work where they left off, with new skills and new knowledge learned in the battle. But many will not come back. Many will come with physical disabilities which will prevent their effective practice of their chosen profession. Will there be enough younger men to fill the gaps in the ranks? Necessities of war have cut deep into the normal program of training whereby the medical forces of the nations are replenished from generation to generation. Will that curtailment result in impairment of medical service in the years immediately ahead?

The organized Chapters of the International College of Surgeons are peculiarly well prepared to help in solving this problem. Because we are a "college," an institution in which the process of learning and sharing knowledge is perpetual, rather than a society for the enhancement of the prestige of its members, we can help the surgical profession to replenish itself.

There is a call to war now which is just as clear as that of a few years ago. But the warfare it presages is clean and good and worthy of devotion—warfare on want and physical suffering, warfare on intolerance and hate and injustice, warfare on the causes of war.

There is no more important task today than this of reconstructing the medical profession of the world to meet the present and future needs of humanity. There is probably no organization potentially able to contribute more to this task in the surgical field than the International College of Surgeons. How can we best respond?

MAX THOREK

Medical Progress and Problems in China

TWO issues of the Chinese Medical Journal[*] that came to the editorial offices recently are full of information about the progress of medical care and medical education in China and about the present and future needs of that country.

Both issues have several articles on vitamin deficiencies and deficiency diseases. An interesting report on prevention and treatment of deficiency diseases in general includes tables showing the vitamin content of foods generally obtainable in China and not too expensive for the average budget.

The ingenuity of physicians in devising substitutes for hard-to-obtain drugs is shown by the reports of the use of honey (as a substitute for the formerly used cod liver oil) in ointments for the treatment of chilblains, nonspecific ulcers and small wounds Methods of treating opium addiction are considered, and there is a report on the present status of studies on Chinese antimalarial drugs A long and carefully illustrated article on the roentgenologic anatomy of the position of the coils of the normal small intestine shows that research continues

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[*] January-March and April-June 1944. Since January 1943 the Chinese Medical Journal has been published in Washington, D. C., as well as in Shanghai.

Considering the difficulties of getting material from China, not to speak of the complications involved in engaging in research and writing in that harassed country, the editors and the authors are to be congratulated on having presented such sound and timely scientific articles

The official reports and editorials in these issues are equally, if not more, interesting

The January March issue gives reports on the history, present status and organization of the Medical College of National Central University and of the College of Medicine and Dentistry of West China Union University, as well as a detailed report on the several Emergency Medical Service Training Schools The latter were established by the Army Medical Service in order to provide training for still unqualified personnel who had had to be taken into the service A policy of "stage medical education" provides for alternating periods of study and of active service The April June issue presents a similar report on the National Kweiyang Medical College Despite the shortage of personnel and the necessity for moving institutions from one place to another, sometimes with construction of new buildings, sometimes with sharing of buildings and equipment by two or more institutions, medical education of high standards has continued

An original article in the January-March issue deals with an investigation of infant mortality and its causes in Chengtu, and the April June issue has a report of maternity and child health work there, under the auspices of the Szechuen Provincial Health Administration As is pointed out in an editorial, these reports show that "even in these difficult times of war and inflation public health services in Free China are being developed To Dr C C Ch'en, the provincial health commissioner, must be given the credit, in four wartime years, of increasing the number of hsien (county) health centers in the province from eight to ninety six "

We learn that the Chinese Medical Association has been able to function to some extent in Shanghai and that under the name "China Medical Publication Bureau" it has been able to maintain some of its publications, including the Shanghai edition of the Chinese Medical Journal and the National Health News

These reports and news items may well be read as supplementary material to the book "China's Health Problems,"* by Dr Szeming Sze, General Secretary of the Chinese Medical Association and one of the editors of the Chinese Medical Journal This small volume presents briefly the basic problems of public health and medical care in China and outlines the proposed and actual organization of the country's resources for dealing with them The third edition has been almost entirely rewritten and contains new sections on the antituberculosis, antivenereal and antileprosy movements, on birth control and on nutrition

The editorial in the January March issue of the Chinese Medical Journal is an address made at the first meeting of the Council of the United Nations Relief and Rehabilitation Administration by the other editor of the journal, Dr. J. Heng Liu, as a member of the Chinese Delegation. Because it presents a significant and challenging situation more clearly than could any abstract or rewording of ours, we quote the editorial in its entirety, by permission of Dr. Liu:

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* China s Health Problems Szeming Sze Chinese Medical Association Washington D C 1944 Price $1 00

"Of the United Nations, China was the first to fight and to be invaded by the aggressor. Certain provinces are entirely and others partially occupied by the enemy. Medical relief and rehabilitation on a huge scale will be necessary because, after seven or eight years of war, destitution, starvation and epidemics are inevitable.

"China has never had a competent health service, in the modern sense of the term. What was started in Nanking in 1929 developed rapidly so that the foundations of a modern public health service were laid. But a very small percentage of the population could be reached and vast problems in the public health field, e.g., sanitation, control of epidemics, infant and maternal welfare, general medical care, and social diseases were barely touched upon.

"However, a model program was worked out for health organizations in the provinces, cities and rural districts so that a minimal service could be given to the people. Encouragement is given by the National Health Administration for the establishment of local health centers in the form of grants-in-aid, loan of personnel, and in the training of workers. New medical institutions were being established, and the progress, until war broke out in 1937, was most encouraging.

"The war has not interrupted this public health movement, but the cities and provinces which had established the new services were lost to the enemy, who destroyed the buildings or discontinued the services. Medical colleges and hospitals, both governmental and private, have suffered the same fate. At the same time new institutions and services have since grown up in Free China, so that in 1942 almost two-thirds of the hsiens (or districts) have health centers. Compared with 1937, this is most encouraging, but due to the blockade and on account of shortage of personnel, these centers are of the flimsiest kind, in buildings, equipment, supplies and personnel.

"The Chinese Government is determined to carry out a program of state medicine which should particularly be applicable in China. Even before the war the ratio of doctors to population was 1 to 50,000. Our medical colleges, with only two or three exceptions, have had to be moved thousands of miles to new quarters, where with the small amount of equipment it is impossible for them to turn out any large numbers of graduates. The army has only a fraction of the graduate doctors it requires and the shortage of manpower in the medical and public health field, while quite an acute problem now, will remain so when any work in Relief and Rehabilitation is started.

"Large numbers of new medical and public health institutions will have to be established for providing medical care, to carry on preventive work and for training. Completely new sets of equipment and supplies will have to be provided. There will be included under this category medical and dental colleges, training schools for pharmacists, nurses, midwives, sanitary engineers and inspectors, hospitals and dispensaries, laboratories for diagnosis and for the production of pharmaceutical and biological products, sanatoria for special diseases such as tuberculosis, leprosy, addiction to narcotics, etc. The reference to narcotics is important, because while addiction is now entirely controlled in Free China, the enemy has been doing everything possible to make addicts of the entire population in the occupied areas.

"In connection with sanitation, China has always been far behind the times. It is premature to mention permanent water and sewage systems for many of the larger cities but wherever epidemic disease control measures require them, the minimum machinery, equipment and materials to improve sanitation will have to be provided.

"The provision of shelter, clothing and food will prevent exposure and starvation. Deficiency diseases will be a serious problem for a long time to come and will have to be controlled or prevented with the provision of suitable foods and nutrients.

"Special epidemic and endemic diseases will have to be fought with appropriate measures, requiring especially trained personnel. Bacteriologists, malariologists, parasitologists, entomologists, nutritionists and other specialists will be needed in large numbers.

"China is not, and never was, a country in which medical equipment, apparatus, instruments, drugs and chemicals are produced Practically all will have to be imported until the time comes when the few small factories in Shanghai and the other coastal cities can be restored and very much expanded For hospital buildings, large numbers of pre fabricated buildings will have to be imported and set up in the liberated areas to take care of the emergency In supplying these needs UNRRA can be of the greatest assistance to the Chinese health authorities in accomplishing their objects In addition to supplies, the problem of personnel training seems to be most urgent, because the field work entailed in the program of the Chinese Government will require many times the number available Unless a large number of Chinese can be trained immediately, China will be obliged to engage the services of many foreign workers, who, on account of language difficulties and comparatively poor living conditions, will not be absolutely satisfactory In this program of training, either in China or abroad, it is hoped the UNRRA will also be of assistance"

ACTIVITIES OF BOARD OF TRUSTEES

(Continued from page 281)

2 The College diploma shall be signed by the International President, by the International General Secretary and by the National President of the Chapter to which the recipient belongs If his country does not have an organized Chapter, then the International President Elect shall sign the diploma in lieu of the National President

3 The diploma shall also carry the seal of the International College of Surgeons

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VI That the various omissions through printer's errors in the Constitution and By-Laws of the International College of Surgeons, as outlined by the attorney for the College, be corrected, and its terminology clarified throughout

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VII That the words "any dominion, protectorate, or other autonomous outlying possession of any given country" be inserted and incorporated into Article IX, Paragraphs 1 and 2, of the By Laws of the International College of Surgeons

FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

THIS IS YOUR COUNTRY TO HAVE AND TO HOLD

KEEP HER FOREVER SAFE AND STRONG

BUY MORE AND MORE WAR BONDS AND STAMPS

NEWS AND ANNOUNCEMENTS

UNITED STATES

CHANGES OF DESIGNATION OF MEMBERS

The designations of grades of members of the United States Chapter have been changed to the following, with the approval of the International Board of Trustees:

1. Matriculate
2. Affiliate (this to take the place of the former "Associate Member")
3. Associate (this to take the place of the former "Member")
4. Fellow

These designations are now in effect, and members will be designated accordingly.

The joint meeting of the **Tennessee Division** of the International College of Surgeons and the Knox County Medical Society which was held in Knoxville, Tenn., on **June 8, 1945** (announced in the March-April issue of the *Journal*), was well attended and successful. Several of the papers presented at this meeting will be published in the *Journal*.

The **American Society of Anesthesiologists, Inc.,** is sponsoring an **"Anesthesia Essay Contest."** A prize of $100 is offered for the best original essay, not published previously, on some phase of anesthesiology or on a subject closely related to it. Information concerning the contest may be obtained by writing either to Dr. R. Charles Adams, Mayo Clinic, Rochester, Minn., or to Dr. McKinnie L. Phelps, 745 Fifth Avenue, New York 22, N. Y.

Dr. E. Forrest Boyd, Secretary of the **Los Angeles Guild** of the International College of Surgeons, has sent the following report of a meeting on **April 26, 1945**:

Thirty-three members and guests of the Los Angeles Guild of the International College of Surgeons enjoyed an evening of fellowship, partook of a wartime banquet tinged with pre-war flavors (planned by Dr. Felix Cunha) and listened to a scholarly and *enlightened address by* Dr. Linus Pauling, Head of the Department of Chemistry, California Institute of Technology, Pasadena, and also Professor of Chemistry at the same institution. Dr. Pauling has held and is at the present time in many responsible positions, some of them of international nature. He was appointed by President Roosevelt as a member of the Consul Mission for planning and guidance of post-war medical organization and research.

Dr. Pauling's topic was "Recent Advances in the Realm of Medical Discoveries." He touched upon chemical, physiologic, biologic and surgical fields and dwelt on the international aspects of medical, social, physical and biological science and the far-reaching effects of the practice of medicine and surgery. He considered the present and future financial problems, not only of individual medical students, scientists and research laboratories but also of medical schools and other institutions of scientific learning. He expressed the opinion that the advancement of the sciences in all the related fields is of tremendous importance to the future health, progress and prosperity of the world, and therefore that the economic future of those involved in those fields must be assured and kept out of the realm of politics or other encumbering alliances that would end to stifle free efforts to make further progress The answers were not absolutely clear to the speaker, but his comments provoked valuable discussion

Everyone left the meeting conscious of a deeper obligation to society and to the practice of medicine and surgery and challenged with the future possibilities of the International College of Surgeons

The **Wisconsin Study Guild** of the International College of Surgeons held a meeting at the University Club of Milwaukee on **March 28, 1945,** with Dr W J Carson, F I C S, Regent for Wisconsin, presiding The scientific program following the dinner consisted of a symposium of ten minute reports on the use of penicillin in the following fields, presented by the following men ophthalmology, S G Higgins, M D, F I C S, oral surgery, M N Federspiel, M D, D D S, F A C S, orthopedic surgery, L D Smith, M D, F A C S, F I C S, obstetric surgery, R W Roethke, M D F I C S, urology, W M Kearns, M D, F A C S, F I C S, abdominal surgery, V F Marshall, M D, F A C S, F I C S The papers read in this symposium will appear in an early issue of the *Journal*

MEXICO

(Several items of interest appear in the Spanish section)

For information about membership in the International College of Surgeons and other matters pertaining thereto, address the International General Secretary, International College of Surgeons, 850 W Irving Park Road, Chicago 13, Illinois Inquiries concerning the United States Chapter should be addressed to Mr Ralph E Osborne, The Drake, 1512 Spruce St, Philadelphia, Pa

Spanish speaking surgeons in the United States as well as in Latin America are invited to submit material (original articles, feature material or news) for the Seccion en Español (Spanish Section) Contributions may be sent either to one of the Associate Editors for this section or to the general editorial offices in Chicago

NEW BOOKS

Rudolf Nissen's Duodenal and Jejunal Peptic Ulcer: Technic of Resection[1] is a small volume with a big appeal. Dr. Owen H. Wangensteen, who wrote the foreword, hit the proverbial nail on the head when he wrote: "Dr. Rudolf Nissen, steeped in the tradition of a long and thorough period of training in surgery and schooled in the exacting technique of ulcer surgery, is well qualified to write on this subject. His contributions to this and other phases of surgery are well known."

The work is divided into two parts, one on duodenal and one on jejunal ulcer, and is full of worth while and instructive material. The closure of the duodenal stump being of such major importance, Dr. Nissen has described the technic which he first published in 1932. Among others who have accepted this method with slight modification are von Haberer, Mandl, Doberer, R. Graham and Wangensteen.

The section on jejunal ulcer is of the same high order as the preceding section. In commenting on Dr. Lahey's technic of management of gastrojejunocolic fistula, Dr. Nissen "raises the question whether it is necessary or even desirable to resect the fistulous section of colon." "Our own experience," he says, "has been on the negative side."

The frequent ulcerative conditions of the gastrointestinal tract still have bewildering aspects and are of grave import. The mature and expert opinion of Dr. Nissen, whose surgical accomplishments are recognized throughout the contemporary surgical world, is worth having. This book is a fine addition to his already large collection of writings on this subject.

The illustrations, which are excellent, were contributed by Mrs. Nissen.

The **Michigan State Medical Society** and the **Michigan Department of Health** have together published a volume entitled **Cancer—A Manual for Physicians**,[2] which embodies contributions from thirty-eight leaders in the field of cancer, who express differing, and in some instances conflicting, views.

Useful information is marred by affirmations still in the conjectural field, and some already proved untrue. An example of important misstatement is that benign tumors rarely become malignant. This is contrary to the reviewer's experience and to the ideas stressed in campaigns for the public against cancer. There is only brief mention in one place that cancer may be a number of diseases. The greatest field of advance—that of recognition of the multiplex pathologic nature of cancer—is omitted entirely; moreover, no mention is made of the fact that leprosy, tuberculosis, actinomycosis, blastomycosis, syphilis and other diseases have through the centuries been separated from what was formerly called cancer and have come to be recognized and treated as entities, largely successfully. In this book Hodgkin's disease is classified as cancer, although it has been proved by the work at Harvard and elsewhere to be an infective granuloma. The conclusions of many leaders, including Bloodgood, Ewing, Harrington, Tyzzer and Bashford, have been overlooked.

Valuable reference is made to the dangers of removing tissue for biopsy. However, the volume contains a statement that there is no experimental or clinical evidence to indicate that metastatic spread of cancer is an important consideration. This despite the fact that there is abundant recorded proof that such is a danger! Hemophilia is stressed as a hazard in obtaining a specimen for biopsy. Why not suggest making laboratory tests for the coagulation time, just as one makes serologic tests for syphilis in cases of suspected cancer?

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[1] Duodenal and Jejunal Peptic Ulcer: Technic of Resection. Rudolf Nissen. Grune & Stratton, New York, 1945.

[2] Cancer—A Manual for Physicians. Published jointly by Michigan State Medical Society and Michigan Department of Health, 1944.

Fortunately, the contributors show a conservatism in their claims regarding radiation treatment

There is much good in the book despite the foregoing criticisms offered as constructive suggestions

The arrangement of **Thomas Orr's Operations of General Surgery**[3] will be of value to the student and the general surgeon alike Certain chapters are plethoric with major surgical procedures, but regretably such common operations as tonsillectomy are not included in the work The text is necessarily abbreviated, and justly so, for if it were augmented the volume would be unwieldy The reputation of Dr Orr, his mature experience and his keen desire to contribute from his storehouse of practical knowledge the crystallization of what he considers would be of value to his surgical audience make this a praiseworthy and well accomplished work

A colored plate and numerous illustrations make the second edition of **R J McNeill Love's Minor Surgery**[4] a most attractive volume It has been thoroughly revised to bring it up to date An introductory chapter on examination of the patient stresses the importance of an accurate history and careful inspection of the patient Antiseptics used in antisepsis and asepsis are listed, and the necessary preoperative and postoperative precautions are emphasized Wounds are discussed under such general headings as wounds of the thorax, of the abdomen and of the head, hematoma of the scalp and ear, "black eye," burns, bites, foreign bodies and sports injuries Remaining chapters deal with the vascular system, cellulitis and abscess, bandaging, slings, knots and strapping, hernia, minor surgical operations, genitourinary surgery, the eye and the ear, anesthetics, fractures and dislocations The index and the handy format, the book being of a size to fit into the pocket, make this splendid little volume particularly useful to the surgeon on a battlefield, as well as a valuable addition to the library of the general practitioner called upon to face emergencies calling for minor surgery

In the midst of the alarums of war a volume like **Solomon Kagan's Modern Medical World**[5] offers welcome respite, for here on the humanitarian front are mustered the captains of another war, and of another day, to which the world may soon return Only a medical biographer with insight and broad vision could have authored this book for, unlike many, Dr Kagan abjures parochialism and ranges into new and unheralded areas, in America and abroad

In a neat volume of well over 200 pages, Dr Kagan presents 291 portraits and sketches of physicians who have contributed something of importance to the science of medicine The great physicians whose accomplishments and whose features are familiar to the American public through frequent reproduction are not stressed, rather, the emphasis has been placed on men of achievement whose portraits have rarely if ever appeared in serious compilations

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[3] Operations of General Surgery Thomas G Orr W B Saunders Co, Philadelphia, 1944 Price $10

[4] Minor Surgery R J McNeill Love H K Lewis & Co, Ltd, London, 1944 Price 15 s net

[5] The Modern Medical World Portraits and Biographical Sketches of Distinguished Men in Medicine Solomon R Kagan, Boston Medico Historical Press, Boston, 1945 Price $6 00

About one fifth of the men portrayed on these pages have never before been given recognition in American medical biographies. Approximately one half of the portraits have been made directly from photographs never before published.

The biographies are arranged alphabetically under the various specialities. But on every page the portrait becomes the center of interest. It is often said that physicians grow to resemble one another—that a doctor can always be spotted by his characteristic mien and expression. An analytic person is therefore tempted to seek out and define the common denominators in these likenesses. Any reader may draw inspiration from a contemplation of the lineaments of a productive leader in medicine, as he scans the accompanying sketch. The character, as presented in the portrait, enlightens the accomplishment, so that one senses the advantage of meeting his subject face to face.

These sketches are marvels of condensation. Dr. Kagan, pupil as well as biographer of Dr. Fielding H. Garrison in the field of medical history, believes with Garrison that brevity is the soul of biography. Yet this volume presents much historical information not previously recorded. It may be considered, for the time being, at least, a supplement to the fourth and last edition of Garrison's History of Medicine, published in 1929.

The style is terse and lively, well adapted to the technic. The volume is presentable and attractive, handy in size, clear of print. Fortunately the lapses of the proof-reader are few, but there is an occasional evidence of slip-up, such as "New York Village" (page 15) and misspelled words, like Valperaiso (page 176), Fieldnig (page 208) and scoial (page 211). Rarely a portrait, reproduced from an old or worn electrotype, is below the average high standard. Dr. W. B. Cannon's picture (page 189), while good, would be more characteristic in full face.

This volume maintains the fine level of Dr. Kagan's previous work. It is worthy of gracing the book shelves of any person interested in the cultural and social aspects of modern medicine; it is easy and enlightening reading for the layman, as well as for physicians. It deserves a handy place in every library.

John A. Kolmer's book on **Penicillin Therapy**[6] appears only four years after Florey and his associates first succeeded in isolating penicillin in relatively pure form and revealed its remarkable effects in the treatment of various experimental bacterial infections of mice. In these four years a vast literature has been accumulated on the methods of production, properties, standardization, methods of administration, dosage and therapeutic effectiveness of penicillin in man, both in the prevention and in the treatment of numerous diseases caused by various pathogenic organisms, bacteria and spirochetes. The author of this little volume has set these data down in book form, thus making all of the information easily available.

From the standpoint of the physician, it may be said that the virtue of completeness is the single fault of this valuable book. A considerable portion of its 285 pages is devoted to the methods and factors involved in the production of penicillin, its physical and chemical properties, its pharmacology and the methods for its detection and assaying—all of which are highly important to the laboratory worker but of little more than academic interest to the bedside practitioner.

Nevertheless the active physician will find this a most useful source of information on penicillin therapy if he will concentrate on the chapters on treatment, in which numerous useful therapeutic suggestions and informational data are succinctly presented.

Considerable attention also is given to the consideration of tyrothricin, gramicidin and other antibiotics which are still in the experimental stage of development.

The volume is a timely and useful one and should go far in acquainting physicians with the uses and limitations of this remarkable compound. Both author and publisher should be commended.

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[6] Penicillin Therapy Including Tyrothricin and Other Antibiotic Therapy. John A. Kolmer. New York, D. Appleton-Century Company, 1945.

In **The Chemistry and Pharmacy of Vegetable Drugs**[7] **Noel L Allport** deals with the derivation and properties of most of the principal vegetable drugs in an orderly, scientific and interesting fashion Now and then an intriguing detour into the history of a certain drug adds zest and sustains the reader's interest After reading the book, one feels better acquainted with the drugs reviewed and is impressed by the fact that man has always had a comparatively ample supply of medicaments about him in nature since the dawn of history

One is impressed by the fact that in spite of the rapid march of the hormones and vitamins upon the pharmaceutic horizon the principal vegetable drugs are not likely to be readily displaced, for as yet no complete substitutes have been found for them

It should not be assumed that the vegetable kingdom has been completely explored or exhausted, and one is reminded that recent confirmatory observations of earlier work have been made concerning the value of the fruits of hawthorn for the treatment of patients with cardiac lesions or high blood pressure Another valuable bit of information has been that relative to the use of the alkaloids derived from the plants of the genus Erythrina in the treatment of complications following the shock treatment of schizophrenia and other mental diseases The latest and most noteworthy contribution of the vegetable kingdom is penicillin, which is formed in cultures of the mould Penicillium notatum

The author concludes as follows " although modern pharmacology has done much to systematize our knowledge of therapeutics, the fact remains that so far as vegetable drugs are concerned, it is still largely empirical—and so after considering all the advances which are taking place in materia medica, there would seem to be no valid grounds for supposing that the use of vegetable drugs will ever be superseded "

The book would be an interesting and helpful source of information to any student of materia medica, chemistry or medicine, especially in the preliminary or introductory phases of such work, and later for quick but brief references

Beardwood and Kelly are to be congratulated upon the fascinating, practical and yet scientific manner in which, in their **Simplified Dietetic Management**,[8] they have compressed a compendium of facts into what really amounts to a handbook It should appeal to every physician dealing with diabetes and associated problems and complications, for, while it is of infinite value to the patient, the premise is that the doctor must determine the patient's needs in carbohydrate, protein and fat at all times With that information in the hands of the patient and with the "unit method" charts available, the patient is able to regulate his diet from the variety and calorie standpoint

For the convenience of the patient, the unit values are given in household measures metric and avoirdupois systems Here again the authors are careful to warn the patient to be accurate by first comparing household measures with actual measurements

The authors' classification of "units" is as follows "Group A consists essentially of the plant foods—fruits, vegetables, cereals and cereal products, while Group B consists of the animal foods—meats, eggs, cheese, fish, etc Group C contains both plant and animal foods Each C unit is equivalent to one unit of Group A and one unit of Group B "

By definition each "A" unit contains 5 Gm of carbohydrate and 1 Gm of protein with a caloric value of 24 By definition each "B" unit contains 5 Gm of protein and 10 Gm of fat, with a caloric value of 110 By definition, each "C" unit is equivalent to 1 unit of Group A plus 1 of group B, with a caloric value of 134

With the physician's determination of the patient's requirement in grams of carbohydrate, protein and fat, it is easy to convert it into units and then to refer to the classified food charts for the actual diet. A and B foods must be included in each meal, and the units may be selected from groups A, B or C, but there must be no exchange of foods in groups A or B for those in group C.

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[7] The Chemistry and Pharmacy of Vegetable Drugs Noel L Allport Chemical Publishing Company Inc, Brooklyn, N Y, 1944

[8] Simplified Diabetic Management Fourth Edition J T Beardwood Jr and K T Kelly J B Lippincott Company, Philadelphia, 1944

In addition to the foregoing information, the authors have briefly but effectively touched upon the following subjects from the dietary standpoint: heredity and obesity, postoperative conditions, tuberculosis, nephrosis, nephritis, disturbed gastric function, including ulcer, gallbladder disease, colitis, diarrhea and finally cardiac decompensation, also vascular complications, dermatitis, neuritis and pregnancy.

Brief mention is also made of completely balanced diets from the standpoint of minerals and vitamins.

The diabetic patient is instructed in diabetic hygiene, the dangers of infections of various types and the importance of frequent medical examination.

This book is timely and very much worth while for both the patient and the physician.

Simmons and the other authors of **Global Epidemiology**[9] have pioneered in the field of geo-medicine and have under pressure of wartime circumstances and urgent global military necessity compiled a mass of information of enormous value to the armed forces, the full effect and content of which will not be known for years to come. To one who has traveled through most of the countries dealt with in this volume under peacetime conditions, the prodigious amount of work accomplished is staggering. The bibliography alone is well worth the outlay of time and effort involved.

One does not have to be a seer to realize that the work was prepared primarily for the health, protection and medical care of troops, but information of essentially civil value has been recorded for its value to the military authorities in dealing with civilians in occupied territory. Another important part of the work is the tabulation of the medical and hospital facilities, if any, of the countries under discussion.

The reader must take into consideration the great problem of racial differences, the influence of religion, culture and education or lack of it in the countries surveyed, and finally, factional, sectional, and national pride and its influence on some of the reports or surveys. Also for the present much valuable information must be withheld for the sake of military security.

The discussions about the various countries and nations concerned follow a natural, logical and routine plan which makes perusal easy and interesting as well as valuable.

Emphasis is made of the different manifestations of the same infection or disease in different localities of the globe and also of medical problems peculiar to different global localities.

With the postwar world compressed into an area of sixty hours or less by means of modern travel, global medicine and its implications and responsibilities will be as vital and necessary as have been in the past the modern measures of vaccination, immunization and quarantine. A thorough knowledge and complete understanding of global geo-medicine will be a "must" for the national and international health guardians of the future, and this volume will stand out as the initial guide post, with the pointing, inquisitive, scientific finger directing the way to the methods of complete eradication and control of disease and infection which will make universal global travel of the future a happy, educational and healthful experience with a minimum of hazard and a maximum of comfort.

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[9] Global Epidemiology: A Geography of Disease and Sanitation. James Stevens Simmons, Tom F. Whayne, Gaylord West Anderson and Harold Maclachlan Horack. J. B. Lippincott Company, Philadelphia, 1944. Price $7.00.

Sección en Español

La Equinococosis Primitiva del Conducto Raquideo

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EN el conducto raquídeo pueden desarrollarse dos formas de equinococosis: la primitiva y la secundaria.

Llámase equinococosis primitiva la que resulta de la detención y ulterior desarrollo de un embrión hexacanto en los tejidos blandos encerrados en el conducto raquídeo. La equinococosis secundaria, en cambio, es debida a la invasión de dicho conducto por macrovesículas y microvesículas provenientes de una equinococosis desarrollada primitivamente en una vértebra o, por excepción, en una costilla o en los músculos de los canales vertebrales.

Esta diferenciación en equinococosis primitiva y secundaria tiene aún más interés práctico que teórico. Como hemos de ver más adelante, en la equinococosis primitiva se forma un solo quiste hidático univesicular, quiste que es fácilmente extirpable en el acto quirúrgico, con lo que se obtiene la curación definitiva del enfermo. En la equinococosis secundaria, en cambio, el conducto raquídeo es invadido por gran número de vesículas hijas cuya fuente de origen es la vértebra enferma, lo que impide obtener la curación definitiva; sólo en casos excepcionales se han logrado mejorías muy prolongadas, que han sido interpretadas erróneamente como curaciones.

Contrariamente a lo que sucede en la equinococosis secundaria, de la que ya se conocen unas 250 observaciones, la equinococosis primitiva es extraordinariamente rara; sólo conocemos, incluyendo la que da motivo a este trabajo, 8 observaciones, cuyo resumen va a continuación:

De las observaciones antiguas, recogidas por Devé,[1] sólo pueden aceptarse sin discusión, a nuestro modo de ver, la de Bartels (1869), en que existían dos quistes hidáticos intradurales que comprimían la médula, y la de Goupil, en la cual se encontró un quiste hidático univesicular en el espacio epidural. Rechazamos la observación de Spoo, aceptada por Devé, por cuanto presentaba una excavación en la lámina vertebral correspondiente, lo que para nosotros es signo inequívoco de equinococosis secundaria.

A esas dos observaciones, cuyos originales no se han hallado a nuestro alcance, deben agregarse las siguientes:

OBS. 3.—Castex, Brachetto Brian y Camauer[2] publicaron en 1927 el estudio anátomo-clínico de un sujeto, portador de un quiste hidático univesicular, de 6 a 7 cm. de largo, ubicado entre duramadre y hueso en la región cervical. Tenía, además, quistes multivesiculares en la cisterna magna y en el hígado.

OBS. 4.—Camauer y Sacón,[3] en 1932, dieron a conocer una observación de paraplejía espástica por quiste hidático. Este, que fué extirpado por el Profesor Solé, asentaba entre duramadre y cuerpos de las décima y undécima vértebras dorsales, "adhiriéndose apenas al periostio vecino." Era también univesicular y medía 5 por 2.5 por 2.5 cm. El estudio histológico, realizado por el Profesor Mosto, ratificó su naturaleza equinococósica.

Obs. 5.—Balado,[4] el mismo año, reprodujo la fotografía de la pieza anatómica y consignó el dato de haber operado a un enfermo con un quiste hidático que comprimía la cola de caballo. También se trataba de un quiste univesicular.

Obs. 6.—Allende y Luque[5] publicaron en 1935 el caso de un otro enfermo operado con éxito afortunado. Era un quiste univesicular, del tamaño de un garbanzo, que se enucleó en cuanto se abrió la duramadre. No hubo escape de líquido céfaloraquídeo, lo que permite sospechar que el quiste estaba rodeado de zonas de aracnoiditis.

Obs. 7.—Rogers y Tudhope,[6] en 1938, estudiaron una chica con dolores, paraparesia y bloqueo del espacio subaracnóideo. La operación, realizada por el Profesor Anderson, permitió extirpar un quiste extradural, univesicular, de 38 por 19 mm., cuya naturaleza equinococósica fué revelada por el estudio microscópico; contenía ganchos pero no escólices.

Obs. 8 (Personal).—A. S. es peón de campo de 22 años. Inicióse su enfermedad hace tres meses. con dolor en la región sacrocoxígea que pocos días más tarde irradió hacia ambos miembros inferiores, predominando en la cara ánteroexterna del muslo izquierdo, en el territorio de las segunda y tercera raíces lumbares. El dolor se exacerbaba enormemente con los movimientos de la tos, del estornudo y de la defecación.

A los ochos días de iniciada la enfermedad. el dolor era tan intenso que se vió obligado a guardar cama. El reposo le proporcionó una evidente mejoría, pero la vuelta al trabajo exacerbó nuevamente el dolor. Internado en un hospital del interior, estuvo en ma durante cincuenta y cinco días y fué sometido a un tratamiento de inyecciones epidurales de lipiodol. Otra vez el reposo en cama calmó casi por completo el cuadro álgico, pero éste reapareció al volver el enfermo a la vida activa.

Actualmente el dolor es muy intenso y calma solamente con la inmovilidad en decúbito dorsal. No ha tenido trastornos esfinterianos ni sensación de torpeza o pérdida de fuerzas en sus miembros inferiores.

El examen somático sólo revela las siguientes alteraciones:

Los músculos de los canales vertebrales, intensamente contracturados, se dibujan como dos gruesos cordones, tanto más visibles cuanto que existe marcada lordosis lumbar. Los movimientos de flexión, extensión e inclinación lateral de la columna lumbar están casi abolidos. El miembro inferior izquierdo se mantiene en ligera flexión de cadera y rodilla. El signo de Lasègue se obtiene bilateral, muy marcado. La flexión forzada de la cabeza exacerba el dolor lumbociático (signo de Neri). La compresión de las venas yugulares provoca adormecimiento doloroso de ambos miembros inferiores (signo de Naffziger y Jones).

La motilidad está normal. No hay amiotrofia ni pérdida de fuerza. Los reflejos tendinosos y cutáneos están normales. La sensibilidad está normal en todas sus formas. En las radiografías no se observan lesiones de vértebras ni de discos intervertebrales.

La punción entre las quarta y quinta vértebras lumbares da líquido céfaloraquídeo xantocrómico, con 30 por ciento de albúmina, que no coagula espontáneamente. Su presión, de 40 cm. de agua, no se modifica con la maniobra de Queckenstedt, pero cae a 12 cm. en cuanto se extraen 6 cc. de líquido.

Sospechando la existencia de un tumor de cola de caballo, se hace una nueva punción entre la duodécima dorsal y la primera lumbar vertebra. La presión, de 25 cm. de agua, sube rápidamente a 40 mediante compresión de las venas yugulares y baja también con rapidez al descomprimir. A este nivel, el líquido céfaloraquídeo tiene 0.44 por ciento de albúmina y 24 células por milímetro cúbico. Se inyectan 5 cc. de lipiodol.

Las radiografías muestran un bloqueo completo, en línea horizontal, a nivel del borde inferior de la primera vértebra lumbar

Operación se hace en el cuatro de junio, 1940 Raquianestesia con 0 004 Gm de clorhidrato de percaína (nupercaína, dibucaína) y 0 04 Gm de clorhidrato de procaína entre la duodécima dorsal y la primera lumbar vertebra permite realizar toda la operación sin el menor dolor Laminectomía de las primera, segunda y tercera vértebras lumbares que luego al conocerse la naturaleza del proceso, fué ampliada hasta la cuarta La duramadre late a nivel de la primera vertebra lumbar pero no por debajo Abierta la dura, se advierte que las raíces de la cola de caballo han sido separadas en dos haces laterales por un tumor quístico, alargado en forma de cilindro y con sus extremos redondeados, que se deja desprender con toda facilidad por cuanto sólo tiene adherencias sumamente laxas en sus extremos

Extraída la vesícula hidática, se observa que las raíces en la parte que entra en contacto con aquella, están adheridas entre sí por una delgadísima membrana, de aspecto ligeramente inflamatorio, que puede ser interpretada como un esbozo de adventicia Hacia arriba y hacia abajo estas adherencias velamentosas se cierran en forma de cúpula, gracias a tal disposición la vesícula hidatídica esta privada de movilidad Se sutura la duramadre con "surjet" de hilo de lino y se cierra la herida en 4 planos, sin drenaje

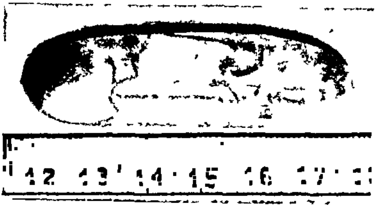
El curso postoperatorio es ideal, con desaparición inmediata del dolor irradiado A los veinticinco días no existe el menor dolor local durante los movimientos De acuerdo a los informes recibidos el cuatro de Abril de 1941, el paciente se ha reintegrado a sus duras tareas de peón de campo, trabajando especialmente a caballo sin sentir la mínima molestia

Examen de la Pieza—La vesícula hidatídica mide 6 cm de largo por 2 5 cm de diámetro Es un cilindro perfecto, con sus dos extremos redondeados (fig 4) Sus paredes son muy delgadas Contiene líquido incoloro y transparente a discreta tensión El examen microscópico muestra una capa externa anhista pluriestratificada y una capa interna granulosa con el aspecto típico de la *equinococosis, no se observan escólices ni* ganchos

COMENTARIO Y CONCLUSIÓN

Nuestra observación, sumada a las precedentes, nos permite afirmar que los caracteres de la equinococosis primitiva del conducto raquídeo son los siguientes:

1. La equinococosis primitiva puede asentar en el espacio epidural o dentro del estuche dural.
2. En ambas localizaciones, el aspecto *macroscópico del parásito es el mismo.* Trátase de una vesícula única, alargada en forma de cilindro, con sus extremos redondeados, dispuesta en sentido vertical.



La vesícula hidática extraída

3. Sólo cuando la vesícula es pequeña —no mayor que un garbanzo— tiene forma redondeada
4. La vesícula hidatídica no se rodea de una verdadera adventicia fibrosa, como sucede cuando parasita otros órganos de la economía. En su localización intradural la aracnoides le forma una delgadísima envoltura velamentosa, que, al cerrarse en cúpula en sus extremos, la mantiene in situ En su localización extradural son los delgados y laxos tractus fibroso del tejido epidural los que hacen oficio de sostén
5. La equinococosis primitiva no perfora la duramadre ni corroe o desgasta

el hueso por compresión. Ello se explica fácilmente si se tiene en cuenta su naturaleza univesicular y el tamaño relativamente grande que puede alcanzar, lo que le priva de la fuerza compresiva necesaria para perforar o destruir tejidos más duros que ella.

6. La tensión a que se encuentra sometido el líquido hidatídico en el interior de la vesícula es suficiente para desprender la duramadre y para comprimir a la médula, dando así origen a los síntomas medulares.

7. En cambio, el dolor que provoca el quiste primitivo del conducto raquídeo no parece ser debido a compresión sino a fijación de las raíces por las tenues adherencias que con ellas contrae. En tales condiciones las raíces quedan privadas de sus normales desplazamientos y son por lo tanto sometidas a tirones durante los esfuerzos y los movimientos de la columna. Sólo así se explica que en nuestro enfermo el reposo absoluto suprimiera el dolor casi por completo.

Para afirmar que lo que se ha extirpado es un quiste hidático primitivo del conducto raquídeo, debe hacerse el estudio histológico de la vesícula, ya que otras formaciones quísticas pueden dar lugar a error.

En la enfermedad de Scheuermann, o cifosis dorsal juvenil, se forman a veces quistes extradurales, capaces de comprimir la médula, y cuya forma es también cilíndrica con los extremos redondeados. Clínicamente puede sospecharse su naturaleza por el simple hecho de que el nivel de la compresión medular coincide con la máxima deformación vertebral: radiográficamente por el adelgazamiento de los pedículos vertebrales y el ensanchamiento de los agujeros de conjugación: macroscópicamente porque su forma no es tan regular como la de los quistes hidáticos primitivos y porque tienen un pedículo que los fija a la vaina de una raíz espinal. El examen microscópico muestra que su pared está formada por tejido conjuntivo poco vascularizado.

Dentro del estuche dural pueden desarrollarse neurinomas quísticos y quistes dèl filum terminal. Los primeros se reconocen porque tienen uno de sus extremos constituído por tejido sólido y porque la raíz que les ha dado origen, a la que están firmemente adheridos, se abre a su alrededor en forma de abanico. En los segundos sucede análoga cosa con el filum terminal. En ambos casos el aspecto histológico es característico.

La última posibilidad de error es ofrecida por el quiste congénito desarrollado en el espesor de la duramadre posterior. Sólo conocemos hasta el momento actual una observación de Voss,[7] quien lo interpretó como una variedad especial de meningocele. Histológicamente el quiste estaba formado por una capa externa de tejido conjuntivo y otra capa interna, endotelial.

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SUMMARY

A man of 22 was suddenly attacked with pains in the sacrococcygeal region which extended to the lower limbs, especially the front of the left thigh.

Rest in bed alone gave relief.

Roentgenograms of the spinal column (made after injection of iodized poppyseed oil) showed a complete horizontal

obstruction under the lower edge of the first lumbar vertebra.

Laminectomy of the first four lumbar vertebrae was done When the dura-mater was opened, an echinococcic cyst on the end of the medulla was extirpated The operation gave immediate and permanent relief.

The location of the cyst in this case is unusual.

RÉSUMÉ

Un homme de 22 ans est attaqué soudainement de douleurs dans la région sacrococcygienne La douleur s'étend aux membres inférieurs, intéressant surtout la cuisse gauche.

Seul le repos au lit donnait quelque soulagement

Les roentgenogrammes de la colonne vertébrale (fait après injection d'huile iodurée de graines de pavots) montrèrent une obstruction horizontale complète au dessous du bord inférieur de la première vertèbre lombaire

On fit une laminectomie des quatre premières vertèbres lombaires; on ouvrit la duremère, et on extirpa un kyste échinococcique Le soulagement obtenu fut immédiat et permanent

Le siège du kyste dans le cas rapporté est rare.

СВОД

Мужчина 22 лет был неожиданно поражен сильными болями в крестцо-копчиковой области, распространяющимися в нижние члены тела, особенно в переднюю часть левого бедра Только лежание в постели дало облегчение

Рэнтгенограмы спинного канала (сделанные после ин'екции иодизированного макового масла) показали полную горизонтальную обструкцию на уровне нижнего края первого поясничного позвонка

Была сделана ламинэктомия первых четырех поясничных позвонков Когда dura meter была вскрыта, была удалена эхинококовая киста спинного мозга Операция дала немедленное и полное облегчение

Локализация кисты в этом случае очень необыкновенна

NOTICIAS Y ANUNCIAS

MÉXICO

Han ingresado recientemente al Colegio Internacional de Cirujanos, Capítulo Mexicano, los distinguidos colegas siguientes Dr Fernando Quiroz, F I C S, antiguo y meritísimo profesor de la Facultad de Medicina de la Universidad Nacional de México, Dr Alfonso Diaz Infante, F I C S, Director del Hospital de la Cruz Roja Mexicana y Consejero del Seguro Social de México, Dr. Librado Gutiérrez, F I C S, Académico Correspondiente de la Academia Mexicana de Cirugía en Pachuca, Hidalgo, Dr Fernando López Rodriguez, F I C S, prestigioso oculista de Mérida, Yucatan, Dr Ricardo Labardini Nava, miembro de la Academia Mexicana de Cirugía El Capítulo Mexicano aprobó asimismo promociones a Fellows, a saber Dr Enrique Flores Espinosa, Cirujano de los Hospitales General e Italiano, Dr Héctor Ramírez de Arellano, Director del Hospital de la Cruz Roja en Pachuca, Hidalgo

Nuestros distinguidos colegas mexicanos Dr Raúl Arturo Chavira, F I C S, y Dr Octavio Rojas Avendaño, F I C S, fueron elegidos Electores por parte de la Facultad de Medicina, Universidad Nacional de México, para participar en las recientes elecciones académicas de la propia Universidad

(Continuado en pagina 307)

La Raquianestesia

Tecnica de W. Howard Jones

ALEJANDRO J. PAVLOVSKY, M.D.,* y EDUARDO AUDISIO, M.D.
BUENOS AIRES, ARGENTINA

LA elección del anestésico en cirugía plantea a diario cual será para el paciente el más inofensivo y seguro.

Nosotros tenemos hecho nuestro lugar, prefiriendo siempre la anestesia local o general, recurriendo solamente a la raquianestesia en casos especiales.

Se ha mencionado el empleo de las soluciónes hipotónicas de percaína, propuestas por el profesor W. Howard Jones, de Londres, técnica que venimos usando en nuestro servicio.

Estas soluciónes hipotónicas de clorhidrato de percaína, al 1 por 1,500, tienen un peso específico de 1.0034, densidad menor que la del líquido céfalorraquídeo, que es de 1.005 a 1.007, por lo cual la solución anestésica tiene tendencia a tomar los espacios superiores del líquido céfalorraquídeo, de donde se deduce que la inyección debe darse siempre en decúbito lateral, y que el Trendelenburg será rigurosamente la posición definitiva para evitar el ascenso del anestésico al bulbo.

Además, el Professor Jones demostró que la constitución de la subaracnoides no es un simple saco, sino un tejido de mallas muy laxas que se deja infiltrar con líquido poco concentrado, como se hace para anestesia local.

Con estas dos nuevas adquisiciones y teniendo en cuenta la publicación hecha por el Profesor Sebrechts en la *Revue belge des sciences Médicales,* del año 1934, donde concluye diciendo "que éste es el mejor procedimiento de raquianestesia," empezamos a usar su técnica y pudimos comprobar que las ventajas obtenidas son valiosas, entre las cuales mencionaremos: (1) anestesia de dos horas y media a tres horas; (2) poca toxicidad; (3) localización a las raíces inferiores por la posición de Trendelenburg; (4) limitación de la altura; (5) resolución muscular completa, y (6) curso postoperatorio normal.

El empleo de las soluciones hipotónicas ha marcado un nuevo rumbo, una diferente técnica, con una serie de detalles que deben seguirse exactamente, aunque parezcan insignificantes, pues el olvido de algunos de ellos traerían incidentes y sus resultados serían inseguros y variables.

Comúnmente se dice que la raquianestesia puede ser aplicada por un ayudante cualquiera, con sólo la capacidad de hacer bien una punción lumbar. Esto es una grave conducta, pues la raquianestesia es una intervención tan seria y tan llena de responsabilidades como la operación misma. Debe ser practicada por un médico entrenado y bien ejercitado en sus mínimos detalles, para ser así una anestesia eficaz y segura.

Elegimos siempre a los enfermos que

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* Profesor Adjunto de Clínica Quirúrgica, Hospital Fiorito.

van a recibir esta anestesia. La efectuamos en intervenciones grandes y laboriosas, donde su efecto dura dos a tres horas. En los últimos 2,000 de nuestros pacientes operados, 300 han recibido como anestésico esta solución hipotónica, no practicándola en lo que en cirugía podíamos llamar pequeñas intervenciones (apendicectomía, extirpación de hemorroides y de quistes coxígeas, herniostomías).

Recordaremos al respecto de esta lo que dijo el Prof. While, de Norte América, de regreso de su viaje de la ciudad de Viena: "El distinguido cirujano, en cuya división yo estudiaba este punto con vivo interés, desanimó mi entusiasmo, me susurró en una velada: *"No use esta anestesia con todos los pacientes, cuando regrese. Sea prudente."*

Con algunas variantes a la técnica de Howard Jones, describiremos la técnica que usamos en nuestro servicio.

TÉCNICA

Dosis.—La solución de clorhidrato de percaína al 1 por 1,500 viene en ampollas de 20 cc. que prepara un comercio, teniendo cada ampolla 0.0133 Gm. de percaína y cada 1 cc. de solución 0.00067 Gm.

Para las intervenciones de menor importancia del abdomen inferior y miembros (eventraciones, amputaciones), usamos 10 cc. de solución (es decir, 0.0067 Gm. de percaína).

Para las intervenciones en la cavidad abdominal inferior y pelvis (histerectomías, amputación de recto y asa sigmoidea), empleamos 12 cc. de solución (0.0073 Gm.).

Para las intervenciones en el abdomen superior (colecistectomías, nefrectomías) usamos 15 a 18 cc. de solución (0.009 Gm.); nunca hemos pasado de 15 cc. de solución.

Sitio de la Punción.—Para las intervenciones situadas por debajo de una línea horizontal que pasa a nivel del ombligo, hacemos la punción entre la quarta y la quinta o entre la tercera y la quarta apófisis lumbar.

Para las operaciones situadas por encima de esa lìnea, hacemos la punción entre la primera y la segunda vertebra lumbar o entre la duodécima dorsal y la primera lumbar.

Teniendo la precaución de graduar en más o en menos la posición Trendelenburg, según las raíces que queremos anestesiar, variamos esta inclinación desde un ángulo de 10 a 20 grados.

Instrumentarium.—Una ampolla de 20 cc. de solución de clorhidrato de percaína es entibiada a bañomaría, pues a esta temperatura se evitan las cefaleas.

Empleamos una jeringa de 20 cc. con una aguja de inyecciones intramusculares para cargar el anestésico, una aguja de punción raquídea fina, de 0.8 mm. de diámetro por 8 a 10 cm. de largo, de bisel corto, tipo Pauchet o tipo Gutiérrez.

Este material debe ser esterilizado con agua bidestilada libre de todo álcali o bien en seco en la estufa.

Como complemento, se debe tener a mano ampollas de efetonina, efedrina, cafeína, estricnina, oxígeno y carbógeno, para hacer inhalar durante la intervención y en casos de tendencia nauseosa y sincopal.

Cuidados Preoperatorios.—Cosa muy importante, que no debe olvidarse, es el estado psíquico del paciente; el médico ha de familiarizarse con él, recomendándole que es el anestésico mejor para su organismo, dominarle, calmarle de su excitación, despertándole confianza, podríamos decir: hechizarle, encantarle.

Una hora antes de hacer la punción raquídea, le inyectamos 1 cc. de solución de pantopón (una mistura de clorhidratos de alcaloides del opio) o eucodal (clorhidrato de dihidro-oxicodeinone). Media hora después de ese narcótico le inyectamos 1 ampolla de efedrina o efetonina (0.05 Gm.). Si la presión maxima de la sangre fuera de 160 mm. o más, no le damos esos analépticos.

El enfermo es llevado a la mesa de operaciones y colocado siempre en posición decúbito lateral; nosotros hemos elegido el decúbito lateral derecho para mayor comodidad.

Cargamos mientras tanto la jeringa con la dosis de la solución de percaína determinada.

Marcamos las apófisis espinosas y las crestas ilíacas y desinfectamos la región con tintura de iodo, quitando el exceso con alcohol.

Punción del espacio interespinoso elegido, con la aguja de raquídea sin mandril, avanzamos suavemente hasta el subaracnoídes; llegado a éste, sale el líquido céfalorraquídeo con cierto retardo, por la delgadez de la aguja; al salir las primeras gotas y para estar seguro de inyectar en buen lugar, se introduce 1 mm. a 2 mm. más la aguja y sin dejar que salgan más de 2 a 3 gotas de líquido céfalorraquídeo pues es otra condición importante procurar no perder el líquido; se conecta rápidamente la jeringa cargada con la solución y se inyecta lentamente a razón de 2 cc. por minuto. Al inyectar el primero o el segundo centímetro cúbico de la solución, se nota una resistencia; se debe esperar medio minuto y luego se prosigue inyectando la dosis completa, sin aspirar y reinyectar, es decir, no hacer nunca barbotage.

Terminada de inyectar toda la solución, se deja medio minuto la jeringa presionando sobre el émbolo para que no salga líquido céfalorraquídeo por el trayecto de la aguja; mientras tanto le hacemos inyectar 1 cc. de una solución de cafeína subcutánea, la cual excita el sistema cardiovascular, eleva la presión y evita los vómitos.

Se coloca ahora al enfermo en decúbito ventral para que el anestésico actúe sobre las raíces posteriores y en ligera posición de Trendelenburg si se interviene en la pelvis o abdomen inferior, no siendo necesaria esta posición si se interviene en el abdomen superior. Se deja en esta posición durante diez minutos.

Cuando el vientre es muy voluminoso (e.j., gran panículo adiposo, gran tumor de abdomen), es imposible colocarlo en decúbito ventral; en estos casos se coloca el paciente en decúbito ventral lateralizado, primero a la derecha, durante diez minutos, y luego lateralizado a la izquierda, durante cinco minutos.

Llegados los diez minutos en la posición decúbito ventral, se pasa luego a la posición decúbito dorsal, para la cual se pone la mesa en la posición de Trendelenburg con una inclinación de 10 grados, cuando se interviene en bajo vientre. Al pasar de la posición decúbito ventral al dorsal, se le encarga al enfermo que no levante la cabeza; al mismo tiempo un ayudante le da vuelta, procurando levantar la pelvis a un nivel más alto; estas maniobras deben hacerse con dos ayundantes, con suma delicadeza, sin sacudirle y sin brusquedad.

Esta posición es la definitiva, la cual no debe abandonarse, pues con la posición de Trendelenburg más o menos acentuada, se limita la altura de la anestesia y se evita que el anestésico ascienda al bulbo con los peligros consiguientes.

A los treinta minutos de terminada la inyección raquídea, se puede empezar a operar.

Cuidados Durante la Intervención.—Hay que vigilar la hipotensión, buscando sus síntomas clínicos, por palpación del pulso radial, pues es suficiente y fácil percibirla cuando baja bruscamente, única forma que nos alarmaría y obligaría a recurrir a las drogas analépticas (efetonina, efedrina o inyección de suero adrenalinado), en cuyo único momento su acción hipertensiva parece ser más eficaz.

Durante la intervención y cada quince a veinte minutos, le hacemos inhalar carbógeno, de tres a cinco minutos, para combatir la anoxemia causante de la fatiga del centro respiratorio producida por la absorción de la droga por la corriente sanguínea.

Siempre le inyectamos una ampolla de coramina (niketamida, 25 por ciento solución de piridine-3-[β]-carboxilic acido dietilamide) subcutanea a los cuarenta minutos de la intervención, para estimular la respiración y favorecer la actividad y regulación cardiaca.

Cuidados Postoperatorios.—El transporte del enfermo de la mesa de operaciones a su lecho debe hacerse en la posición de Trendelenburg, y el enfermo debe mantenerse en esa posición por lo menos catorce horas, para evitar el ascenso del anestésico y las cefaleas.

Estando ya en su cama, se le da una ampolla de coramina, y 0.5 mg de estricnina subcutánea, para levantar la depresión del tonus muscular. Se le hace inhalar carbógeno, diez minutos por hora, durante cuatro o cinco horas. Ademas se le darán las inyecciones de suero e indicaciones especiales corrientes.

El progreso del empleo de las soluciones hipotónicas es tan manifiesto que los cirujanos Etherington Wilson, Boume y O'Schanghuessy las emplean en toracoplastias altas y bajas, efectuando la raquianestesia con el enfermo en posición sentada, graduando así, según el tiempo de posición en segundos, el ascenso del anestesico, con resultados excelentes y sin ningun accidente ni secuela.

CONTRAINDICACIONES

1. Afecciones encéfalomedulares.
2. Afecciones supuradas dorsales, de difícil asepsia.
3. Shock traumático o heridas grandes con hemorragias intensas donde haya hipotensión.
4. Septicemias.
5. Los específicos.
6. Enfermos que padecen de cefaleas.

RESULTADOS

La anestesia ha sido completa y se ha mantenido durante dos a tres horas en intervenciones grandes y complejas, sin manifestar los pacientes ningun accidente ni síntomas de intolerancia.

El tan temido descenso brusco de la presión sanguínea no lo hemos observado nunca, tal vez sea debido a la condición primordial de esta técnica, de mantener al enfermo siempre en la posición de Trendelenburg, posición que según algunos autores es la más eficaz y el único medio para combatir la anemia aguda cerebral, responsable del colapso vasomotriz, y al empleo, durante la intervención, del carbógeno, que actúa estimulando el aparato cardiopulmonar. Generalmente no vomitan, y en casos muy especiales enfermos pusilánimes y excitados presentan algunas náuseas, escasos vómitos a los veinte o treinta minutos de inyectado el anestésico.

Esto lo observamos en las primeras anestesias, donde usábamos como narcótico la morfina, pero desde que la reemplazamos por el pantopón (una mistura de clorhidratos de alcaloides del opio) o eucodal (clorhidrato de dihidro oxicodeinone) éstos han desaparecido.

La resolución muscular, el silencio abdominal es satisfactorio, permitiendo al cirujano trabajar con suma comodidad.

Los cursos postoperatorios han sido tranquilos. Los ritmos respiratorio y circulatorio han sido normales; la parálisis del nervo moto ocular común no la conocemos; las cefaleas que tanto mortifican al paciente y no menos preocupan al cirujano han sido desterradas con esta técnica.

Procediendo con esta técnica, cuidando todos sus detalles así como tratando con suma delicadeza a los enfermos hemos conseguido una anestesia excelente y segura, pudiendo decir con el Profesor Forgue "que el principio de la solución hipotónica debe señalarse como un progreso definitivo."

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SUMMARY

We use spinal anesthesia only for important operations, and almost exclusively for operations on the lower part of the abdomen.

It has been used for major gynecologic operations, for operations for cancer of the rectum, for hysterectomies, for operations for cancer in obese persons, for colectomies, for nephrectomies, and for other operations in 300 cases.

It has usually been employed when general anesthesia might be dangerous: for instance, in the presence of pulmonary sclerosis in a case of cured tuberculosis; for total or vaginal hysterectomy in cases of cancer: in the presence of obesity, and for hypertensive elderly patients (30 patients more than 60 years old).

Because of the seriousness of the operations, our experience is important in view of its good results. The 1 to 1,500 hypotonic solution of percaine hydrochloride (β–diethylaminoethylamide of 2–butoxycinchoninic acid hydrochloride) employed by the technic of Howard Jones produces an excellent prolonged anesthesia, with little risk, and without danger of bulbar infiltration when a forced "Trendelenburg" position is maintained, which is observed frequently when hypertonic solutions of Quarella are used.

RÉSUMÉ

Nous n'employons l'anesthésie spinale que pour les opérations importantes et presque exclusivement pour les opérations sur la partie inférieure de l'abdomen.

Cette anesthésie a été employée pour les grandes opérations gynécologiques, pour les opérations pour cancer du rectum, pour l'hystérectomie, pour la néphrectomie et pour d'autres opérations dans 300 cas.

L'anesthésie spinale est ordinairement employée quand l'anesthésie générale parait hasardeuse, par example, dans les cas de sclérose pulmonaire résultant d'une tuberculose guérie; pour l'hystérectomie totale ou vaginale pour cancer du corps de l'utérus; chez les malades obèses; chez les malades d'âge avancé et souffrant d'hypertension artérielle.

Une solution hypotonique (1 à 1,500 solution) d'hyperchlorure de percaine employée d'après la technique de Howard Jones nous donne une excellente anesthésie prolongée, avec peu de risques et sans danger d'infiltration bulbaire quand le malade est maintenue dans la position de Trendelenburg. Cette infiltration s'observe fréquemment quand on emploie une solution hypertonique de Quarella.

СВОД

Мы употребляем спинную анэстезию только в важных операциях и почти исключительно для операции нижнего живота

Этот способ был употреблен при больших гинекологических операциях, при операциях прямой кишки, метеректомиях, операциях над тучными больными, при колостомиях, нефректомиях и при разных других операциях в 300 случаев

Обыкновенно, он применяется, когда общая анэстезия опасна, как например, в присутствии легочного склероза в случаях залеченного туберкулеза, в тотальной или вагинальной истерэктомии; в присутствии тучности, для пожилых больных с повышенным кровяным давлением (было 30 больных старше 60 лет).

В виду серьезного характера этих операций наш опыт важен по своим *хорошим результатам*

*1 1500 гипотонический раствор соляно*кислого перкаина (β — диэтиламиноэтиламид 2 = бютоксинхониной гидрохлорной кислоты) применяемый по методике Howard Jones дает великолепную продолжительную анэстезию с очень небольшим риском и без опасности бульбарной инфильтрации в положении Trendelenburg'a, что часто наблюдается, когда употребляется гипертонический раствор Quarella

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NOTICIAS Y ANUNCIAS

(Continuado de pagina 301)

Recientemente fueron elegidos miembros del Consejo Técnico de la Facultad de Medicina, Universidad Nacional de México, los distinguidos colegas siguientes Prof Dr Manuel A Manzanilla, F I C S (Hon), Vicepresidente Internacional del Colegio Internacional de Cirujanos, Prof Dr Miguel López Esnaurrízar, F I C S (Hon), Regente Nacional y Tesorero del Capítulo Mexicano; Prof Dr Francisco Fonseco, F I C S (Hon), Regente Especialista y Secretario Nacional, Prof Dr Julián González Méndez, F I C S, Regente Especialista de Cirugía Toráxica, Dr Fernando Quiroz, F I C S, antiguo y meritísimo Catedrático de Anatomía de la Facultad

Nuestros distinguidos colegas cubanos Dr Ricardo Núñez Portuondo, F I C S (Hon), y Dr José Lastra Camps F I C S, fueron elegidos recientemente Academicos Correspondientes de la Academia Mexicana de Cirugía Asimismo, fué elegido Académico Correspondiente por la propia Academia el distinguido colega cubano Dr Nicolás Puente Duany, Director del Instituto del Radium de la Habana

Nuestro distinguido colega Dr Chevalier L Jackson, F I C S, ex vicepresidente del Colegio Internacional de Cirujanos, fué elegido Académico Correspondiente por la Academia Mexicana de Cirugía

El distinguido colega mexicano Dr Ignacio Cadena H, M I C S, fué elegido Académico Correspondiente de la Academia Mexicana de Cirugía

El distinguido colega mexicano Dr Darío Fernández Fierro, F I C S (Hon), Vicepresidente Nacional del Capítulo Mexicano del Colegio Internacional de Cirujanos, ha sido invitado por el señor Presidente de la República de Costa Rica para visitar dicho país en misión de acercamiento científico e intercambio universitario Asimismo, el Dr. Fernández Fierro ha recibido invitación de la sociedad universitaria "La Juventud Médica de Guatemala" para visitar también dicho país

(Continuado en la pagina próxima no XVII)

(Continuado de página 307)

Se ha publicado en México recientemente un importante "Tratado de Anatomía Humana," del que es autor el distinguido colega mexicano Dr. Fernando Quiroz, F.I.C.S., antiguo y meritísimo profesor de la materia en la Facultad de Medecina de la Universidad Nacional de México. Dicha obra fué editada bajo los auspicios de la propia universidad.

El distinguido colega mexicano Dr. Ignacio Gonzales Guzmán fué elegido recientemente Director de la Facultad de Medicina, Universidad Nacional de Mexico. Asimismo, en ocasión del Segundo Congreso Nacional de Cancerología de Cuba, fué designado en forma distinguida Miembro de Honor del propio Congreso y Miembro Correspondiente de la Sociedad Cubana de Cancerología.

El distinguido colega Dr. Conrado Zuckermann, F.I.C.S., fué designado recientemente profesor de Clínica de Cancerología de la Facultad de Medicina de la Universidad Nacional de México.

Está muy interesante que el Hospital San Juan de Dios, de San José de Costa Rica, ha organizado un Congreso Médico, con el propósito de conmemorar el Centenario de su Fundación. Han sido invitados para esta importante reunión científica diversos y distinguidos miembros del Colegio Internacional de Cirujanos.

Se puede anunciar que se ha constituído el Comité Mexicano para la V Asamblea Internacional del Colegio, en la forma siguiente: Presidente, Dr. Manuel A. Manzanilla, F.I.C.S. (Hon.); Vicepresidentes, Dr. Miguel López Esnaurrízar, F.I.C.S. (Hon.) y Dr. Francisco Fonseca, F.I.C.S. (Hon.); Secretario, Dr. Enrique Flores Espinosa, F.I.C.S.

SYRUP
VANA-DIAZINE
(Suspension of Sulfadiazine)
with
THIAMIN CHLORIDE

Vana-Diazine es una suspensión de sulfadiazina con sabor a vainilla con cloruro de tiamina en una base de azúcar invertida. Esta preparación es un método agradable y aceptable para administrar la sulfadiazina.
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ACCION
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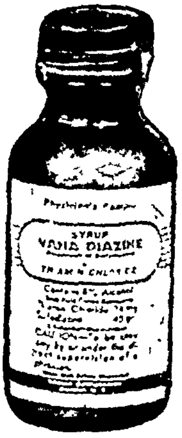

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Original Articles

The Frontal Sinus as a Pathway of Infection to the Calvarium and Brain

SAMUEL R. SKILLERN, JR., M.D.
PHILADELPHIA, PA

THERE is by far a greater number of calvarian and intracalvarian infections of frontal sinus origin than from all of the other nasal accessory sinuses combined.

Acute infection of the frontal sinus, especially following swimming in fresh water, seems to predominate, although a chronic infection may be responsible. Usually there is an acute exacerbation to start the spreading of the disease, but this does not always hold true.

The frontal sinus is the only cell that is in direct communication with the dura and brain, unless there is a dehiscence in the cell walls of an ethmoid or of the sphenoid sinus. This frontal communication is due to the minute opening in the posterior plate for the passage of the venae perforantes. Here again is an oddity in anatomy. This sinus is the only one whose venous drainage is directly into the large blood sinuses within the brain. Fortunately the frontal and sphenoid cells are less likely to become infected than are the ethmoid and maxillary cavities, but when they do, they cause greater damage to the surrounding tissues.

To comprehend the spreading of infection from the frontal sinus, one must consider the anatomy. The floor of the frontal sinus is composed of thin, dense compact bone. The posterior wall is a hard, dense ivory-like bone. The frontal plate is generally made up of two plates of compact bone; occasionally a medullary layer of cancellous bone is found.

The ostium is through the floor and may form a direct communication with the nose or may open into a duct of variable size and length.

The mucosa lining the frontal sinus is thin and friable and has a poor glandular and blood supply.

The blood supply to the frontal sinus mucosa is from a small branch of the anterior ethmoid artery which enters the sinus through the ostium. The venous drainage is through the venae perforantes, perforating the posterior wall.

Between the thin, periosteal lining and the bone itself in the frontal wall of the sinus, there are lymph spaces which communicate directly with the canaliculi of the haversian system.

TIME DOES NOT PERMIT A FURTHER ANATOMIC STUDY!

Let us consider what occurs in an acute infection or an acute exacerbation of a chronic infection of the sinus mucosa. First there is swelling of the mucous membrane, generally starting in the nasofrontal duct or in the ostium with pressure on the artery supplying the mucosa. This swelling, as a result of extension upward, finally involves the entire lining of the cavity, with pressure on the venae perforantes and stasis of the venous blood stream. This, of course, spells more edema. With the *leakage of serum into the tissues*, the swelling is increased, and now a vicious cycle is instituted. Reticuloendothelial cells migrate into the infected area, and these are followed by leukocytes. This means increasing intrasinus pressure, *with the probability of an interostial* pressure greater than the pressure within the artery. In such event the blood supply to the sinus is cut off, and this is followed by necrosis of the mucosa and the periosteum. This dead tissue *soon becomes loosened*, so that the bone is exposed directly to the infecting organism.

Through the posterior plate, the infecting organism may gain access to the intracranial contents in three ways: First, *necrosis of the bone* with sequestration may permit the invasion. Second, the infecting organism may, by pressure and growth along the walls of collapsed venae perforantes, gain access into the vault of the calvarium. Third, by the erosion of the thin-walled veins, the infection may enter the intercranial blood stream directly.

It has been my experience to find a superficial abscess of the brain with the first two modes of transmission of the infecting organism. With the third type of transmission, the usual finding has been single or multiple abscesses of variable depth.

When the anterior wall is involved, the rapidity of the spread of the infection depends on the presence of a medullary layer of cancellous bone.

From the original symptoms of a sinus infection to the onset of osteomyelitis there are three factors to be considered: the thickness of the inner wall of compact bone; the virulence of the organism, and the *resistance of the* patient—in other words, the barrier of bone and the *opsonic* index of the patient.

Mosher, Furstenberger and others have described so thoroughly the spreading of osteomyelitis by retrograde thrombosis through the canals of Breschett and the large frontotemporal veins that further discussion is useless.

There has been quite a controversy as to the diagnosis and treatment of so-called malignant osteomyelitis and benign osteonecrosis with its sequestrations. It is my opinion that the density and thickness of the compact bone and the absence of cancellous bone are factors governing the type of the infection. If nature has the opportunity of walling off the intraosseous area of infection, sequestration may occur.

When the intrasinus infection causes a necrosis of the lining membrane, it throws open the canaliculi found between the periosteum and the bone. As this lymph stream leads directly into the haversian system, when the infection reaches a central haversian canal *it may, by erosion, enter the blood* stream through one or more of the endothelial-walled capillaries within this canal. These capillaries finally empty into the frontal veins or blood lakes, from which, by retrograde thrombosis, the entire frontal plate may become involved.

Cancellous bone is always found at or just above the junction of the anterior and the posterior plate. When the infection reaches this bone, osteomyelitis occurs. This, in our opinion, accounts for the number of osteomyelitic perforations of both the anterior and the posterior wall at or just above the upper limitations of the frontal sinus cavity.

When the infection does not enter the blood stream but remains in the slower lymph streams of the haversian system, it gives nature a sufficient length of time to wall all the infection into small isolated areas which form sequestrations and abscesses.

Fever, pain and "Pott's puffy tumor," combined with the generalized symptoms of toxemia, simplify the diagnosis of a rapid fulminating osteomyelitis of the frontal bone.

On the other hand, the acute symptoms may apparently subside under treatment.* The swelling over the frontal area completely disappear and the pain and toxemia be relieved, as in the case of a recent patient who was up, dressed and around the ward and stated, "feel fine except for a slight headache in the morning." This he thought was due to constipation. His chart showed a normal temperature during the day with a rise of 1 degree (F.) or less each night. Roentgenograms taken daily over a six day period revealed a slow, progressive rise in fluid level, first in the right and then in the left frontal sinus. The final films showed these sinuses to be completely filled. The patient showed no physical signs of the progressing infection. This being the case of a colleague who was out of town, I hesitated to operate until his return the following day. At operation we found an extensive osteomyelitic involvement of the frontal bone extending upward to the coronal suture. There was a large perforation in the posterior plate of the sinus filled by herniated brain tissue due to an underlying abscess. And yet this man was up and about stating he was feeling better every day! The values shown in the laboratory reports were within a normal range except for a low red cell count and hemoglobin content. It was only by the roentgenograms that the progressive infection was recognized. I know of no greater adjunct in the diagnosis of the progress of frontal sinus infections than good, clear roentgenograms.

One must remember Mosher's teaching: that the roentgenographic evidences of the outer limitations of an osteomyelitic infection of the frontal bone are from seven to ten days behind the actual progress of the disease. A more reliable landmark is the outer limitations of the "Pott's" puffy tumor, as an underlying acute infection within the frontal bone will manifest itself by edema and swelling of the periosteum and its overlying soft tissues.

In my opinion, even this is no proof of the limitations of the infection; consequently, I make the bone incision from 3 to 4 cm. beyond the line of soft tissue edema, hoping that I may have gotten beyond any infected area.

If the bone capillaries do not bleed at this incision, I assume that there is an infected thrombus beyond the incision. I therefore bite away with rongeur forceps until free capillary bleeding is obtained.

For a chronic infection of the frontal sinus with no evidence of extension into the osseous tissue, I think conservative treatment should be followed.

As the floor of the frontal sinus is composed of thin, compact, brittle bone, I do not consider it a dangerous procedure to enlarge the frontal ostium. Of course, there is usually some necrosis of the bone from injury, but the cancellous bone is so distant from this enlarged ostium that there is little likelihood of osteomyelitis occurring.

Of course, the most conservative treatment is amputation of the anterior tip of the middle turbinate with the hope that this will allow sufficient drainage. If the patient's condition does not show immediate improvement, the sinus should be sounded and by gentle local suction one should remove from the nasofrontal duct the plug of pus that may be interfering with drainage. In many instances such daily treatments have brought about an amelioration of all symptoms. If drainage continues after several days, it is advisable to enlarge the nasofrontal duct by rasping forward and outward; these directions avoid the danger of breaking through the cribiform plate, which extends forward often to the anterior wall. If this conservative intranasal operation does not bring about a cure, it is best to open the frontal sinuses above the superciliary ridge. I always follow this procedure for chronic frontal sinusitis or an acute exacerbation of a chronic infection.

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* Administration of a sulfonamide compound (or penicillin) combined with localized intranasal shrinkage and irrigation of the nose with isotonic solution of sodium chloride.

In cases of *acute infection* of the frontal sinus following swimming and in all cases of osteomyelitic involvement, the frontal sinus should be opened immediately by the most radical procedure, i.e., removal of the anterior wall above the superciliary ridge.

The following technic is my standby: The sinus is entered at the midline of the anterior wall just above the superciliary ridge with a small half-round gouge. The limits of the sinuses are then measured by a soft silver probe. A grooved incision is made with a Killian V chisel by starting at the outer limitation of the sinus and cutting toward the central, or original, sound opening. This avoids splitting of the bone. When the slit is enlarged sufficiently to allow the entrance of a rongeur forceps, the entire anterior plate is removed. The upper edge of the anterior plate of the sinus is beveled to avoid a ridge, and the entire cavity is curetted of every vestige of mucosa and periosteum. I make it a point to irrigate the wound of all blood and secretion, so that I have a clear view of every nook and corner of the sinus cavity. It is only by cleansing the bone that one is able to see any small shreds of material that may still be clinging to the bone. Next I sound the nasofrontal duct, and if it is not of proper size I enlarge it with the rasp.

For the last few years I have been packing the sinus cavity with sulfathiazole or sulfadiazine powder, but in my last two cases I used penicillin with excellent results; now, I make a primary closure of the wound, which facilitates healing, and am thus able to discharge patients within a week.

SUMMARY

The peculiar anatomy of the bony walls of the frontal sinus, its arterial supply and its venous drainage with direct communication, via the venae perforantes, into the dura and brain and to the large blood sinuses within the brain are the factors that are responsible for this sinus being the most frequent cause of intracalvarian infections than all of the others combined.

The treatment of uncomplicated infections of the frontal sinus, both acute (except those due to swimming) and chronic, should, in my opinion, be conservative at first, progressing into greater and greater radical measures to meet the progress of the infection.

SUMARIO

La singular anatomía de las paredes huesos de los senos frontales, su drenaje arterial y venoso y su comunicación directa por via de las venas perforantes al través de la dura mater y el cerebro hasta los grandes senos sanguinosos dentro del cerebro son responsables por que este seno sea causa más frecuente de infección intracranial que todos los otros senos combinados.

El tratamiento de infecciónes de los

senos frontales sin complicacion, agudas o crónicas (a excepción de aquellos causados por nadar), debiera en nuestra opinion ser conservativo al principio, y progresando a medidas mas radicáles según el progreso de la infección

RESUMÉ

Les infections intracalvariennes sont le plus frequement dues aux inflammations des sinus frontaux Cela s'explique par l'anatomie des parois osseuses de ce sinus, par son drainage arteriel et veineux et par so communication directe par les veines perforantes à travers le dure mere et le cerveau avec les larges sinus sanguins à l'intérieur du cerveau

Le traitement des infections non-compliquees du sinus frontal (celles dues à la nage exceptées), qu'elles soient aigues ou chroniques, doit au debut être conservatif On adoptera des procédés de plus en plus radicaux si l'infection fait du progrès

СВОД

Своеобразная анатомия костяных стенок фронтального синуса, его артериальный и венозный дренаж, его прямое сообщение через venae perforantes, dura и мозг с большими кровянными синусами в мозгу — являются ответственными за то, что этот синус причиняет интракальварную инфекцию более часто, чем все остальные синусы вместе

Лечение неосложенных инфекций фронтального синуса, как острых (за исключением причиненных плаванием), так и хронических, должно быть, по нашему мнению, сначала консервативным, постепенно прогрессируя к более радикальным мерам, соответственно прогрессу самой инфекции

CHANGES OF DESIGNATION OF MEMBERS

The designations of grades of members of the United States Chapter have been changed to the following, with the approval of the International Board of Trustees

1 Matriculate
2 Affiliate (this to take the place of the former "Associate Member ')
3 Associate (this to take the place of the former "Member")
4 Fellow

These designations are now in effect, and members will be designated accordingly

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Spanish speaking surgeons in the United States as well as in Latin America are invited to submit material (original articles, feature material or news) for the Seccion en Español (Spanish Section) Contributions may be sent either to one of the Associate Editors for this section or to the general editorial offices in Chicago

Arteriovenous Aneurysms in the Region of the Circle of Willis

From an Ophthalmologic Aspect

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IN this presentation we shall discuss three aspects of the subject. First, we shall make a rather brief summarization of aneurysmal conditions of the circle of Willis from an ophthalmic standpoint; second, and more important, we shall consider those conditions with disturbances of the contiguous veins or venous sinuses, again from an ophthalmic standpoint, for in this field ophthalmic symptoms and signs are outstanding; third, we shall deal with the surgical treatment of this latter group.

The second division is stressed because arteriovenous aneurysms in the region of the circle of Willis are almost purely surgical conditions, and as such constitute a proper subject for presentation before a surgical assembly. The relevance of the third division of our presentation is equally evident, and for the same reason.

The neurologist and the neurosurgeon frequently treat vascular pathologic conditions of the circle of Willis surgically only following a rupture of the aneurysm, since the characteristic symptoms do not appear until this has occurred. In general, the subjective and objective signs and symptoms are: (1) the presentation of a subarachnoid hemorrhage; (2) signs of general physical disease which might suggest or cause an aneurysm; (3) a previous history suggesting earlier subarachnoid hemorrhage, perhaps with signs and symptoms of a basal space-taking lesion, and (4) symptoms wholly in the realm of the ophthalmologist, such as changes from pressure on the optic nerve, the optic chiasm or the optic tract, and ocular motor disturbances, especially disturbances referable to the third nerve.

The arteriovenous aneurysms which fall within the second part of our presentation have much more clearly cut signs and symptoms. The history is of outstanding importance, especially if that of a traumatism, although this is not necessarily a constant finding. Arteriosclerosis and frequently syphilis are causes. In addition, a simple aneurysm of the ophthalmic artery may be present, or an arteriovenous communication between the internal carotid artery and the cavernous sinus, or an arteriovenous aneurysm within the orbit. All these usually have a few common signs and symptoms, which are: some exophthalmos (from a lesser to a great amount); evidences of centrifugal venous stasis; an evident pulsation of the exophthalmos; and a bruit, which may be subjective, objective or both and not uncommonly is of two types.

The vascular anatomy of the base of the skull can be likened rather roughly to a three-cornered stool. The one back leg of the stool is represented by the basilar artery and the two paired legs by the internal carotid arteries; the seat of the stool may be considered perforated in the center for the brain stem; the anterior sides of the roughly hexagonal structure are represented anteriorly by the two anterior cerebral arteries, arising from the internal carotid arteries and connected by the short, rather broad anterior communicating artery; the posterior sides of this hexagon are the posterior communicating arteries, arising from the posterior cerebral arteries; immediately after these appear the paired terminal horns of the short basilar artery. The optic chiasm and the prechiasmal portions of the optic nerves underlie the anterior cerebral arteries and the interior communicating artery. The cavernous sinus, the terminations of the internal carotid arteries, the beginning of the middle cerebral arteries and the internal jugular veins lie just below or at the origins of the anterior and posterior communicating arteries, where these meet at the internal carotid artery. Variations from this description are not uncommon; they are, however, not tremendously significant. For instance, the posterior communicating arteries may continue as the middle cerebral arteries. The ophthalmic artery, which usually arises from the carotid artery before this has entered the cavernous sinus, frequently arises instead from the carotid artery within the cavernous sinus itself. The anterior cerebral arteries occasionally seem to arise from the middle cerebral arteries, although the latter are really the upper continuing portions of the internal carotid arteries. Figure 1 is a sketch from Walsh and King illustrating this vascular anatomy.

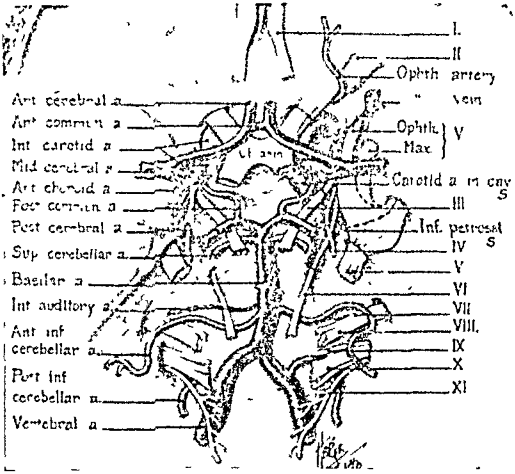

Fig 1 Vascular anatomy at the base, the formation of the circle of Willis

Arterial aneurysms of the circle of Willis, whether or not they are intra-cavernous, may be roughly divided into five general subdivisions. Only one of these has exophthalmos as an optic accompaniment, and this is seldom, if ever, pulsating. Of these subdivisions, following Walsh's classification rather closely, the first is aneurysms accounting for unilateral defects in vision. Such aneurysms may be suspected especially in the presence of symptoms considered as unilateral ocular signs of multiple sclerosis. The diagnosis is seldom made, however, prior to the signs and symptoms of a rupture.

The second subdivision of this classification is aneurysms accounting for bilateral visual field defects, bilateral total blindness or bilateral nasal or temporal hemianopsia, frequently with hemorrhagic infiltration of the fundi. These aneurysms can usually be diagnosed prior to their rupture, and thus are neurosurgical problems. Figure 2 shows the fundi of a patient with such an aneurysm; figure 3, the aneurysmal situation of the anterior cerebral arteries as found at operation, and figure 4, the progressive changes in the campometric fields determined prior to the operation. This patient was successfully operated on by Grant, with permanent and uneventful recovery.

The third subdivision is aneurysms involving the optic tracts and resulting in incongruous visual field defects. Such aneurysms occasionally give signs of involvement of the contiguous cavernous sinus. They are probably the rarest of them all. Figure 5 is a schematic sketch of one such aneurysm, extracortical and beneath the surface of the brain, diagnosed after the rupture, presented by Dr. Levin of Dallas, Texas; figure 6 shows another such aneurysm, presented by Dr. Robertson, of Melbourne, Australia. The latter of these aneurysms was suspected for some time prior to its rupture, with confirmation of the diagnosis, and the patient's death. The patient had internal and partial external ophthalmoplegia with exophthalmos on the same side of the head as was the aneurysm.

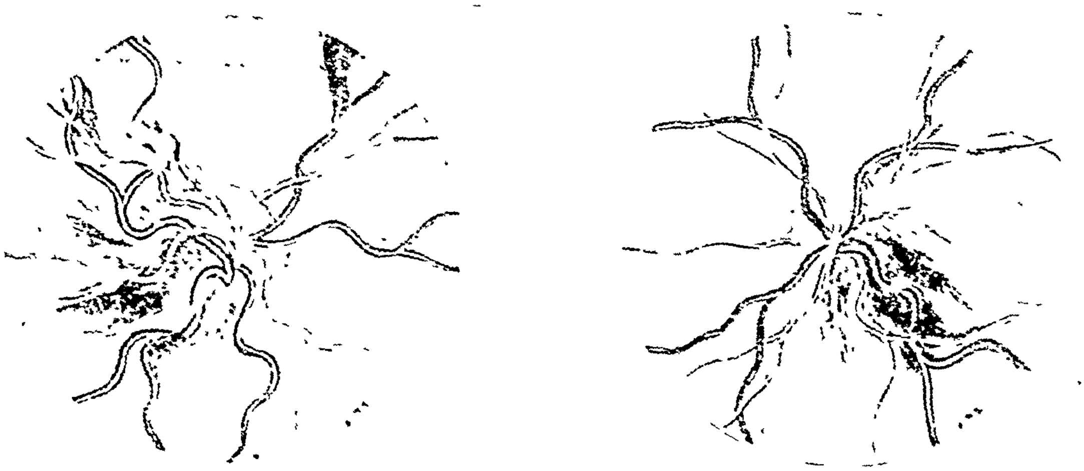

Fig. 2. The fundi of a patient with aneurysmal varix of the anterior cerebral arteries.

The fourth subdivision is posteriorly situated aneurysms with signs suggesting cerebellar neoplasms. The fifth is aneurysms not usually attended by loss of vision but almost always giving ocular signs suggesting cavernous sinus symptoms with exophthalmos, though without

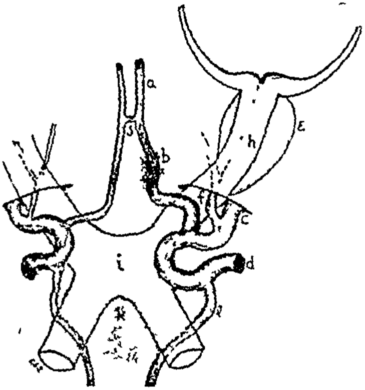

Fig 3 *Anatomic situation present at operation* a, anterior cerebral artery, b, area of localized arachnoiditis, c, internal carotid artery, d, middle cerebral artery, e, dilated perineural vaginal sheath, f, ophthalmic artery, g, optic foramen, h, central retinal artery, i, chiasm, j, anterior communicating artery, k, area of postchiasmal arachnoiditis, l, posterior communicating artery, on the right side beneath the optic tract and on left above the tract as is usual

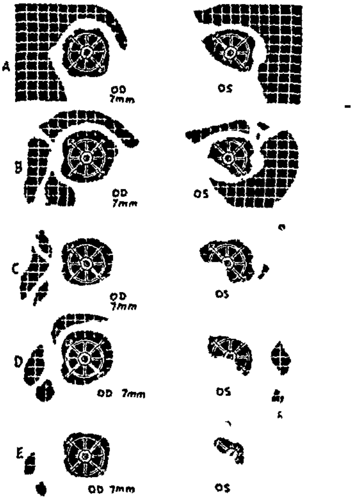

Fig 4 Progressive changes in the fields of vision

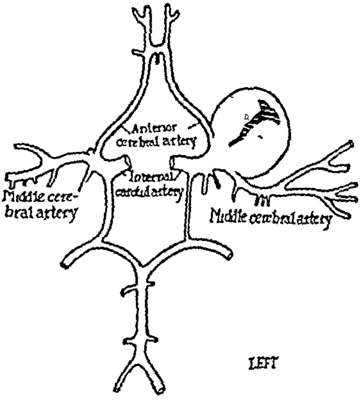

Fig 5 Schematic sketch of an aneurysm reported by Dr P M Levin, of Dallas, Texas (see bibliography)

Fig 6 Photograph of aneurysm reported by Dr Robertson of Melbourne, Australia (see bibliography)

the pulsation and the bruit of the arteriovenous communication. These may extend anteriorly, prechiasmally or posteriorly, as far as the posterior communicating artery. Figure 7 illustrates such an aneurysm which had extended intraorbitally, having made its entrance through a defect in the orbital roof. Thus, the internal carotid aneurysm within the cavernous sinus expanded after having entered the orbit. There was some pulsation but no bruit. After surgical exploration of the orbit and confirmation of this diagnosis, the patient was successfully treated with roentgen rays. The aneurysm was not of an arteriovenous type.

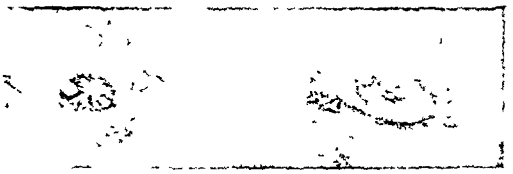

Fig. 7. Intraorbital aneurysm, without bruit; point of entrance into the orbit through an orbital roof and apex defect.

The characteristic symptoms of these aneurysms have been briefly stated as they were classified. A tragedy connected with most of them is that so frequently they cannot be diagnosed, whether arteriosclerotic and atheromatous, traumatic, or syphilitic, prior to their rupture and the onset of the picture characteristic of subarachnoid hemorrhage. Arteriograms can at times be of some assistance.

ARTERIOVENOUS ANEURYSMS

The arteriovenous aneurysms of this region are usually carotid–cavernous sinus fistulae, though ophthalmic artery–cavernous sinus fistulas and communications between the internal jugular vein and the carotid artery occur rarely. De Schweinitz and Holloway, in their analysis of 313 cases reported, showed that trauma, either direct or indirect, was responsible in 70 per cent of instances. The remainder of the aneurysms either were spontaneous in origin due perhaps to congenital anatomic defects or were connected with such conditions as coughing, tumors of the brain which had broken into the orbit, internal hydrocephalus, syphilis or arteriosclerosis.

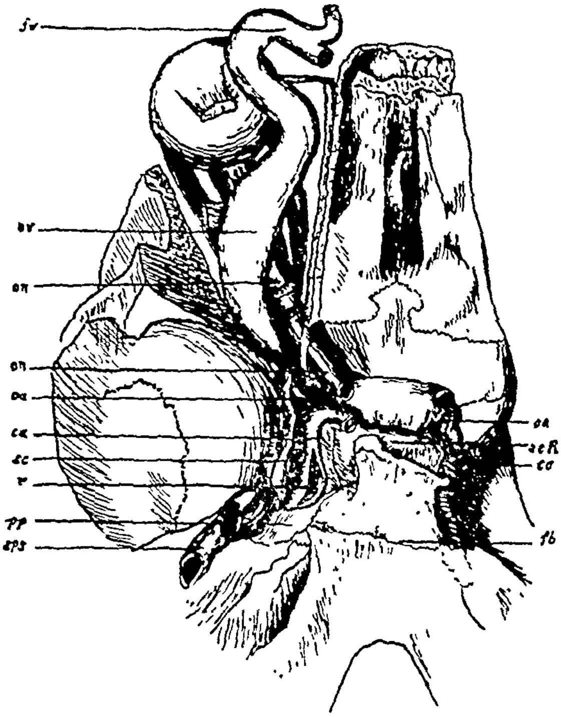

Fig. 8. Aneurysm, after Sattler (see text and bibliography for source of original presentation and identification of letters).

Figure 8 is after an illustration from Sattler's monumental article in the Graefe-Saemisch *Handbuch*. It illustrates a drawing from an anatomic preparation made in a case of internal carotid–cavernous sinus thrombosis *with dissection and opening from above*: The letters have the following significance: *ca*, the internal carotid artery, incised so that one can see the fistula on its medial wall opening into the cavernous sinus; *fb*, the fractured sella; *pp*, a broken portion of the apex of the petrous pyramid; *scR*, the sinus circularis of Ridley; *sps,* a portion of the dilated ophthalmic vein; *fv,* the dilated frontal vein; *oa,* the ophthalmic artery; *sc,* the cavernous sinus: *on,* the optic nerve. The illustration is original with Delens, to whom Sattler has given credit. The drawing shows beautifully the tremendous venous engorgement which results from the carotid-cavernous sinus fistula, to which reference will be made again later in this paper. The ophthalmic vein, the superior petrosal sinus and the circular sinus are all decided examples of this engorgement. One can also see from this illustration why spontaneous intracranial ruptures, when they occur, as was emphasized by Baron in 1835, are usually of the cavernous sinus itself and not of the arterial portion.

Exophthalmos, pulsation of this and bruit are the cardinal and almost constant common symptoms of these aneurysms. There may also be other signs and symptoms, such as visual disturbances, almost certainly ocular motor disturbances, and disturbances of position and of gait. The exophthalmos is from slight to pronounced. Figure 9 is an illustration from a case in which the exophthalmos had been present for six to eight weeks. The most frequent position of the exophthalmos is down and out. Compression of the eyeball is painless, and the exophthalmos can frequently be reduced temporarily by such pressure, though as soon as it is removed the exophthalmos is reestablished. Digital pressure on the neck over the common carotid artery reduces the bruit. Several authors have reported that this pressure not uncommonly shows interference with the cardiac action. With the exophthalmos there is edema of the conjunctivas and of the lids, and while the condition is usually unilateral (and, rather interestingly, more common in the left eye), edema and minimal exophthalmos may appear in the opposite eye. There are several cases in the literature in which the intracranial pathologic changes advanced to such a stage that the pulsating exophthalmos became bilateral.

The pulsation of the exophthalmos can always be felt and frequently is visible, and it is always synchronous with the cardiac systole. The pulsation may at times be severe.

The bruit has three characteristics, or there are three types of this:

The subjective blow, frequently the first symptom noted, is described variously as a roar, a hum, a buzz, similar to the escape of steam, frequently so distressing as to prevent sleep, and is localized by the patient to one ear, to one side of the head or even to the entire skull. It is perhaps in the largest number of instances the first symptom of the condition.

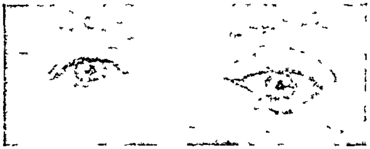

Fig 9. Common type of pulsating arteriovenous aneurysm.

The objective bruit has been described as a loud blowing murmur, synchronous with the systole, and naturally with the pulse, heard more or less readily with a stethoscope, over the eye, the forehead the skull on that side and down into the neck. The variability in its character is less than is the variability of the subjective bruit. The intensity of the murmur is somewhat more variable. One patient was reported on in whom it was so intense as to be audible 8 inches (20 cm.) from the skull.

The third type of bruit is a high-pitched whine or whistling note and is heard much less commonly in that it is seldom if ever found with traumatic aneurysms. It seems to be connected with, and also is diagnostic of, arteriosclerotic arteriovenous communications. The murmur is more frequently intermittent, and perhaps because of this it may be more commonly present, though overlooked by the examiner. It is an objective type of bruit.

The following 5 cases are briefly abstracted to illustrate the differences seen in these arteriovenous fistulas. Four of them are not the common type of cases. These five cases have been selected, however, from the total observed because of the many variations in symptoms and in treatment.

REPORT OF CASES

Case A (the usual type of case) (fig. 9) was an instance of spontaneous arteriovenous pulsating exophthalmos with or from arteriosclerosis. After the operation on the common carotid artery there occurred a complete cessation of symptoms. The anomaly in this case was considered as a simple internal carotid-cavernous sinus aneurysmal connection lying within the cavernous sinus.

In Case B, a 48 year old woman had progressive exophthalmos with pulsation, with the intercurrent development of secondary glaucoma and with massive formation of new blood vessels in the fundus. The condition was spontaneous and of the right eye. Ligation of the common carotid artery failed to ameliorate the symptoms; hence a transfrontal decompression of the orbit was done. It revealed arteriovenous aneurysm, and internal carotid-cavernous sinus communication, without arteriosclerotic changes and with massive dilatation of the orbital and ophthalmic veins. The aneurysmal fistula arose from the internal carotid artery above the cavernous sinus and from there entered the cavernous sinus, connecting therein with it. The patient's Wassermann reaction was 4 plus. The intracranial ligation was only partially successful.

The patient in case C, a man aged 24, had a direct blow to the orbit; within three weeks exophthalmos and pulsation with bruit developed. The exophthalmos and the bruit continued after fractional ligation of the common carotid artery. An exploration of the orbit showed a dissecting form of aneurysm passing through the sphenoid fissure into the orbit, extending from an original internal carotid-jugular bulb aneurysm, the result of fracture of the orbit at the base of the skull and the apex of the orbit.

Case D was that of a woman aged 60 who had a unilateral (right side) arteriosclerotic pulsating exophthalmos with bilateral bruit and with some bilateral edema. Complete recovery occurred only after bilateral ligation of the common carotid artery and further ligation of the right internal carotid artery. The surgical work was extended over a period of one year, and the patient was then free of her bruit and had an almost complete recession of her exophthalmos. The intracranial arterial supply was now only the basilar artery and its terminations, and the internal carotid artery on the left, and any reverse flow from the collateral circulation continuing on the right. In spite of her generalized arteriosclerosis, she had at no time signs of permanent damage.

The patient in case E was a Negro aged 59 with a spontaneous nontraumatic, nonsyphilitic pulsating exophthalmos on the right side with great bruit both objectively and subjectively, beginning signs of extension on the left side and other signs and symptoms suggesting an intracranial lesion, i.e., the arteriovenous aneurysm apparently secondary to this. The patient was transferred from Wills Hospital, after consultation with Dr. William Bates, to Jefferson Hospital under Dr. R. Jaeger, for intracranial air studies; if these revealed anything significant, he was to undergo craniotomy and Dandy's procedure of intracranial ligation. The patient was not in good physical condition when transferred. The air studies showed no signs of intracranial disease. The patient made an almost complete recovery after a unilateral ligation of the common carotid artery.

SURGICAL TREATMENT

The surgical approach to these arteriovenous aneurysms from a *venous* standpoint has as its hope an ascending thrombosis through the venous channels and is not at all satisfactory Ligation of the orbital vein may be indicated when necessary, but this is not the cure for the fistula Other forms of aneurysmorrhaphy, not including Dandy's approach, are formidable procedures and are not to be recommended except under most extraordinary circumstances

A consideration of the pathologic process and its mechanics is the clue to the treatment An arteriovenous aneurysm has occurred as a fistula between two hydrostatic currents of unequal force, which in this case is from the arterial to the venous flow The pulsation and the bruits are the result of this unequal pressure and the interchange of arterial and venous blood through the fistula A reversal in the venous flow occurs because of the impact of the arterial flow—resulting in venous stasis, in edema and in an increase in the blood volume of the entire venous bed The exophthalmos is maintained through this The water hammer impact of the arterial flow continues the widening of the fistula and drains blood from the arterial cerebral channels which has been thus diverted For cure, the venous stasis must be relieved to correct the exophthalmos, the arterial supply to the fistula must be halted without causing cerebral *anemia or, on the venous* side, permitting spontaneous cerebral thrombosis to occur in the venous canals, and the fistula must be closed to stop the bruit, as well as to relieve simultaneously the faulty hydrodynamics Intracranial ligation should be ideal, but it is not necessary if the condition will respond to the less formidable extracranial cervical approach Ligation of the external carotid artery is of no value whatsoever, as would be expected A primary ligation of the internal carotid artery has, as many men have pointed out, a high incidence of cerebral complications, in that it reduces abruptly and totally the blood volume into the brain It stimulates a reversal of blood flow in that portion of the vessel distal to the fistula (low pressure area in the internal carotid artery between the fistula and the ligature), thus it may drain large quantities of the blood from the cerebral channels, and thereby be responsible for thrombosis of the cerebral vessels with hemiplegia and with death

The surgical intervention must reduce pressures within the carotid sinus without causing thrombi or emboli There is no doubt that the carotid sinus is concerned with and responsible for regulating the circulation in the brain, for here such circulatory regulation is far more important than similar regulatory mechanisms in the extremities or even in the abdomen It is obvious, therefore, that Dorrance was correct when he stated "Ligation of the internal carotid with a building up of pressures back of the ligature in the bifurcation, and the consequent retardation of the heart and reduction of blood pressure, would contribute to and accentuate any deficiency of cerebral blood supply"

Ligation of the common carotid artery *after diagnostic compression of this* vessel reduces the blood flow in the internal carotid artery by more than 50 per cent, so that in effect the internal carotid artery has become a branch of the external carotid, and in certain cases this vessel may be an important channel of collateral circulation to the brain This flow of arterial blood from the external carotid into the internal carotid artery makes possible and permissible a later subsequent ligation of the internal carotid artery if that is necessary; such ligation reduces the high incidence *of cerebral complications* associated with primary ligations of the internal carotid artery. Further, as Dorrance said, "Anomalies of the circle of Willis are so rarely uncompensated that deficiency of collateral circulation because of them cannot explain all of the cerebral complications which follow ligation of the carotid vessels."

These *operative procedures* should be done under local anesthesia, so that the patient is conscious and his general physical condition therefore evident; untoward cerebral symptoms, if they occur, then can be seen immediately and the circulation permitted to flow prior to permanent closure. Clamps and vessel plugs are not recommended. When a subsequent ligation of the internal carotid artery is done, the wound should not be closed for twenty-four hours, so that if cerebral symptoms do develop, circulation in this vessel can be immediately reestablished. Black silk sutures are advisable. The common carotid artery should be tied down rather slowly, so that the circulation is not stopped within a period of less than fifteen or twenty minutes. The tying of the internal carotid artery need not be done quite so slowly. Careful postoperative observation, however, is more important following closure of the internal carotid artery, as a secondary operation, than with closure of the common carotid.

CONCLUSIONS

The purely arterial aneurysms of the circle of Willis are difficult of diagnosis; the diagnosis must be made frequently by elimination rather than by affirmation, and it is most commonly confirmed after a rupture. The arteriovenous aneurysms of and in the neighborhood of the vessels composing the circle of Willis do not present tremendously complex diagnostic problems. They *lend themselves well to surgical treatment.* The surgical approach, excluding Dandy's intracranial ligation (consideration of which is not included herein), consists preferably (and following the usual well known preliminary diagnostic procedures) of ligation of the common carotid artery and subsequent to this, when necessary, ligation of collateral vessels, such as the lingual, facial, occipital and temporal arteries, and especially a later ligation of the internal carotid artery. After ligation of the common carotid artery, the internal carotid artery actually becomes a branch of the external carotid artery by reason of the anastomoses from the corresponding arteries of the opposite side of the neck and face. The later ligation of the internal carotid artery will permit development of sufficient collateral circulation centripetal to the cranial cavity to prevent almost wholly those complications connected with a primary ligation.

The bibliography which follows has 363 references, dating from 1807 to the time of writing.

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SUMARIO

Las aneurismas puramente arteriales del circulo de Willis son dificiles de diagnosticar; el diagnostico con frecuencia debe ser hecho por eliminación en vez de afirmación y es más comunmente confirmado después de rotura (ruptura).

Las aneurismas arteriovenosas del vecindario de los vasos que componen el circulo de Willis no presentan complejos problemas diagnosticos y a veces se prestan facil a la extirpación quirurgica.

El acceso quirúrgico (excluyendo la ligatura intracranial de Dandy, que no se discute aquí) consiste de preferencia (habiendo seguido todos los procedimientos bien conocidos para el diagnóstico) en ligatura de la arteria [illegible]da común y después de esta, si es necesario, ligatura de los vasos colaterales, tal como las lingual, facial, occipital y la temporal arterias, y especialmente, al fin, ligatura de la arteria carótida interna.

Después de ligatura de la arteria carótida común, la carótida interna se convierte actualmente en rama de la arteria carótida externa, por razón de la anastomosis de las arterias correspondientes del lado opuesto de la cara y del cuello.

La ligatura más tarde de la arteria carótida interna permitirá el desarrollo de suficiente circulación colateral centripetal a la cavidad cranial para evitar casi por completo las complicaciones resultando de la ligatura primaria.

La bibliografía que sigue incluye 363 referencias, del año 1807 hasta la fecha de este articulo.

RÉSUMÉ

Les véritables anévrismes artériels du cercle de Willis sont difficiles à diagnostiquer; le plus fréquement le diagnostic est fait par élimination plutôt que par affirmation, et il est confirmé généralement après la ruptûre. Les anévrismes arterio-véneux intéressant les vaisseaux environnants qui forment le cercle de Willis ne offrent pas de problêmes diagnostiques très difficiles à résoudre. Ils se prêtent à l'ablation chirurgicale. L'approche chirurgical (dans cet article, la ligature intracraniale de Dandy, que nous ne discuterons pas ici) consiste préferémment dans la ligature de l'artère carotid commune et subséquemment, quand cela est nécessaire, dans la ligature des vaisseaux collatéraux, telles que la linguale, la faciale, la temporale et l'occipitale. Après la ligature de l'artère carotide commune, l'artère carotide interne de-

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The Naval Medical Officer's Surgical Problems in Amphibious Warfare

CAPTAIN RICHARD A KERN MC-V (S) U S N R

NAVAL surgical experience and procedure in the South Pacific are modified by a number of factors, chief among which are the great overwater distances involved and the amphibious type of activity

It is hard to visualize the great distances in the Pacific Perhaps this comparison may give a concept of the size of the area in which the armed forces are operating One thinks of the United States as a fairly large country If one were to superimpose areas equal to that of this country on the Pacific theater of war, it would take nine "United States" to cover it And so far as the major problem of transporting men and supplies is concerned, that theater is all water

Amphibious warfare has produced decidedly new patterns of activity More than ever before, naval medical officers have been ashore doing field duty The Marine Corps, whose medical activities are in the hands of naval medical personnel, both officer and enlisted, is larger today than was the whole Navy during the last war In addition, numerous naval units are functioning ashore, such as construction battalions and the various groups that deal with the administration and operation of advance bases and services of supply

All of this means planning planning hospital housing and equipment, planning the flow of medical supplies, planning the evaculation of casualties, planning the allocation of medical personnel All of this must be with a view to the special problems which each particular strike presents, such as climatic conditions, terrain and endemic diseases Finally, the planning must be integrated with that of the military event in prospect The more I saw of the many angles that medical preparation involved and the successful way in which they were handled, the prouder I became of the Navy's Bureau of Medicine and Surgery

To give an idea of how these problems would vary from strike to strike, here are two sample situations

Military expediency calls for the taking of an atoll that has long been in enemy hands That means that a strong enemy force is concentrated on a narrow strip of island a mile or two long and at most one or two hundred yards wide In such an action all the casualties will occur within a few days or even hours The first ones must be handled on the very ships that brought in the striking force or in a hospital ship that is standing by Only the later ones can receive their definite treatment on the atoll itself After a few days there are likely to be no more major casualties, so that hospitalization needs will be minimal (And while I am speaking of atolls and medical problems, think of the job of disposal of some thousands

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The opinions or assertions contained herein are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large of enemy dead in a coral soil that rises only a few feet above sea level.)

Quite different is the situation where a beach-head and a base are to be made on a small segment of a large island thinly held by the enemy, with a view to by-passing strong enemy positions and neutralizing them by air power. Here the initial casualties are far less likely to be numerous. Full definitive treatment can be given ashore within as little as ten hours after a landing and certainly within twenty-four hours. However, in such an area there are likely to occur major casualties for weeks and months after D day, and correspondingly greater and better hospitalization facilities are needed.

But whether the site be atoll or large island, the evacuation of casualties must be to a fully equipped facility, not 5 or 10 miles behind front lines, as in a Continental theater, but 500 to 1,000 miles away. The transportation must be by ship or plane: by ship for practically all casualties on D day and for many minor casualties thereafter, by seaplane for serious casualties almost from the beginning, and by land plane as soon as an air strip is available, in from four to ten days.

An important part of the preparation for a strike is the training of the medical personnel involved. The medical objective is to bring the best possible surgical treatment as close as possible to the time and place of action. The medical officers with combat units are of necessity of a younger age group, so as to be able to cope with the rigors of a combat area. Their surgical experience is therefore likely to be correspondingly less. It is therefore all the more necessary to instruct them in the specific problems they are likely to face, and in what way accepted surgical procedures may have to be modified to meet the conditions. For example, balanced traction cannot be applied to a fracture in a patient who must be moved several times and over some hundreds of miles, and a double spica cast of the hips must not have a spread of over 28 inches (70 cm.), the maximum width of a bunk in ship or plane.

To help the younger surgeons at the front, roving teams of older, more experienced surgeons act as consultants and, if need be, bear a hand in difficult cases.

Turning now to specific surgical procedure, there is considerable debate as to how much should be done how far forward. But one keeps returning to the cardinal principle that advanced area surgical treatment should be as adequate as circumstances permit. Therefore, every effort must be made to create favorable circumstances for good operation as close to the front as possible, for twenty or thirty minutes of careful attention to a wound within a few hours of its occurrence is worth more than three months in the best base hospital in the rear.

An adequate wound toilet first of all requires a thorough inspection of the injury. This may call for an enlarging of a wound of entry or exit, by incision or through a fascial plane. Mechanical cleansing is helped and the view of the wound improved by irrigating it with solution of sodium chloride, which is amply available in vacoliter flasks. The irrigation is best performed by means of a rubber tube or catheter whose tip is thrust into the bottom of the wound, so that dirt, blood clots and foreign bodies are flushed to the surface. This also brings into view any bleeding points, which are caught and ligated. But bleeding should not be checked by tourniquet or by packing. The former is rarely needed, even as an emergency measure, and packing only too often masks slow bleeding behind the pack and encourages infection and secondary hemorrhage.

Obviously dead and devitalized tissue without blood supply is cut away, but this does not mean wound excision, a relic of the last war, before chemotherapy had arrived to control infection. While the cutaneous edges may be freshened, tongues of skin are not sacrificed if they have an adequate blood supply through their base, for such a peninsula of skin may shorten the time of healing by many days.

Shell fragments and missiles are removed only if they present in the wound or are easily accessible. To this rule there is one important exception: magnesium fragments derived from bombs. These must be carefully sought for and removed, because they exert a highly irritant and destructive chemical action.

There is no time for suture of tendons or nerves as a rule. Nevertheless it is usually possible to find the severed ends at opposite sides of the wound and to bring them together with a loose tie or suture. If this is done, the work of the surgeon at the base hospital will be greatly simplified.

The local use of sulfonamide compounds has been much debated. The disrepute into which this has fallen in the minds of some is largely due to the careless way in which some surgeons thrust a handful of the drug into an open wound, where it acts chiefly as a foreign body. Many others are convinced of the usefulness of sulfonamide compounds in the wound, provided that a reasonable quantity is properly distributed with the tip of the gloved finger into all the nooks and corners of the wound.

While wounds should not be tightly packed, the use of petrolatum gauze lightly filling a defect greatly facilitates subsequent dressings. Wounds are not closed by suture, chiefly to guard against gas bacillus infection. Of 6 deaths from this condition that occurred on the hospital ship, 3 were in instances of primary wound suture. The important exception to this rule, of course, is in case of wounds of the face.

The splinting of an extremity with an extensive wound of the soft tissues is as necessary as the splinting of a fracture. This is particularly true because the patient may have to be moved quickly and without warning. The splint will be his best protection against further shock.

Certain special types of wounds should be mentioned. Wounds in the chest that are not immediately fatal do amazingly well under conservative measures. Of 100 men with such wounds seen on the *Solace,* only one died. The cardinal points in the management are these: A sucking wound must be closed as promptly as possible. This is most simply done under field conditions by means of a petrolatum-soaked battle dressing held in place by sutures. Care must be taken not to convert a wound into a sucking wound by removing a large foreign body. I know of a case in which a palm-sized piece of shell fragment halfway through the wall of the chest was carefully bandaged in place at the front. Later, its removal in a well equipped surgery 500 miles to the rear made a sucking wound that could promptly be attended to. A hemothorax is not aspirated unless there is evidence of positive pressure or of infection.

Patients with wounds in the chest involving the collapse of a lung are kept at rest for "seasoning" for several days before an attempt is made to evacuate them, especially if they are to be flown out. In the first few days after injury such patients, like those with an acute spontaneous pneumothorax, become dyspneic and cyanotic on the least exertion or at altitudes over 3,000 feet (900 meters). Yet a few days later, again like the patients with pneumothorax, they are fully accommodated to their reduced respiratory capacity and stand evacuation by plane well.

Patients with wounds of the head also seem to benefit greatly by a similar period of seasoning before being evacuated.

For patients with abdominal wounds, life itself depends on adequate surgical treatment in the first golden hours after the injury.

The field of the neurosurgeon is a limited one. Either he must be practically at the front so as to see the men with neural injuries within hours of their being wounded, or else he can do nothing until many months later, after all infection has subsided. He ought therefore to be on a surgical team in a combat area, or else in a neurosurgical service in the United States.

Fractures form an exceedingly important group of cases, comprising, as they do, fully 15 per cent of all casualties. Nearly 75 per cent of the fractures are compound. Their management therefore includes the treatment of the wound as well as that of the fracture. A meticulous wound toilet is necessary to guard against serious infection. Gas gangrene is six times as frequent in wounds with involvement of bone as in those without such involvement. In cleansing the wound, bone fragments that have lost their periosteal attachment and consequently their blood supply must be removed.

In civil practice the treatment of fractures embodies the concept of first reduction and then fixation. In front line surgical practice that concept has decidedly to be modified. Reduction is of *relatively minor importance*, chiefly because of the surprising small amount of displacement that follows the impact of a high velocity missile. I have seen a compound fracture of the femur in *which the middle third of the shaft* had been completely shattered, yet the position of the upper and lower thirds was surprisingly good.

Fixation is the matter of chief concern. From the point of view of field conditions, particularly with regard to *the need for transportation by stretcher,* boat, ship or plane, fixation with plaster has proved the most satisfactory method. The *difficulties in handling* plaster in steaming jungles and tropical rainy seasons can be imagined, but they have been overcome. The precaution of splitting the cast, however, must never be *forgotten.*

The Thomas splint has its uses, but also its definite limitations. The most common mistake made in its application is to exert traction on the foot in order to relieve *pain at the site of the fracture.* Such traction is all too frequently applied over the shoe. Many hours may elapse before the type of dressing can be changed, and by that time on the dorsum of the foot under the shoe laces there has developed a pressure necrosis that *takes longer to heal than the fracture* for which the splint was applied.

The use of opiates calls for certain precautions. The most common error is to give the full dose of ½ grain (0.03 Gm.) in a morphine "syrette" to a lightly wounded man who could have walked to the rear with little or no assistance, but who now has to be carried on a stretcher, which requires several men and makes an excellent target for snipers. The other mistake is to fail to record on a tag attached to the patient the time and size of the dose, so that later attendants are led to give a second large dose, with possibly disastrous results.

The proper tagging of the patient is a point of greatest importance. It is the only way in which the next medical officer to see the patient can learn of the nature of the wound, what was done for it, and what was given in the way of tetanus and gas gangrene prophylaxis and opiates. It will tell him, too, when the wound needs to be dressed again, and so perhaps spare the patient an unnecessary dressing or even the risk of a new infection. Such tags must be shielded against obliteration by rain, sweat, mud and wound secretions.

The record as regards tetanus in this war is one of the major medical triumphs. Those who remember the many cases of tetanus that occurred in the last war, some of them developing many months after injury in France and in the wake of a plastic operation performed here at home, will particularly appreciate this point. In over two and a half years, I have knowledge of a single occurrence of tetanus, and that was in a man who had failed to receive toxoid prophylaxis. Among the Japanese, who do not use routine toxoid prophylaxis, tetanus is fairly common.

Gas gangrene has on the whole been comparatively rare. Its occurrence has been a function of the time that elapsed between the time a man was wounded and the time when he first received treatment. Thus on Guadalcanal, where the wounded were all seen fairly early, gas gangrene was rare. In over 4,000 wounded seen on the *Solace* at that time there were only 13 who had gas gangrene. On the other hand, in larger islands, where a man might be wounded at dusk in an advanced position from which he could not be evacuated until next morning and another few hours could elapse before he reached a dressing station, the condition was more frequent, the incidence being as high as 2 or 3 per cent. That was before the advent of penicillin; the record should be better from now on.

These, then, are a few of the surgical problems that confront the naval medical officer. There are many more that I have not touched upon, the telling of which could prove interesting did time and the censor permit. But this I can say. One may be sure that the medical officers of the United States have the ability to solve them. It was a never ending source of pleasure to see the many ingenious devices and gadgets that the medical personnel contrived to meet local needs. As fine an operating room light as I have seen anywhere was made out of half inch (1.3 cm.) pipe, jeep lamp bulbs and empty gasoline tins whose inner shining surfaces were fashioned into correct parabolic curves. There were almost as many different automatic soap dispensers as there were dressing stations, and they all worked. X-ray men rigged their developing tanks so that one end projected out of the dark room and made possible a wet plate reading at a moment's notice. The craftsmen on repair ships, who could fix anything from a chronometer to a propeller shaft, would duplicate within twenty-four hours almost any surgical instrument placed before them.

As the campaign progresses, there will be new problems. But they will be solved, and in solving them our young surgeons in the field not only will grow in skill, judgment, self-reliance and resourcefulness, but will make contributions of lasting value to the whole field of surgery.

SUMMARIO

Tanto la experiencia como los procedimientos de la cirugía naval en el

Pacífico se han visto modificados por la naturaleza anfibia de la guerra y por las grandes distancias marinas, que complican los servicios de abastecimientos y la evacuación de los pacientes.

El primordial objetivo en estas circunstancias consiste en llevar la mejor terapéutica quirúrgica lo más cerca posible del sitio del combate y en el momento más adecuado. Ello se ha conseguido mediante una instrucción preliminar de los cirujanos más jóvenes, para ponerlos en condiciones de atender los tipos de casos con los que tienen mayor probabilidad de enfrentarse y gracias tambien a la ayuda de los equipos quirúrgicos formados por cirujanos de más edad y de mayor experiencia en colaboración con los consultores apropiados, y, finalmente, disponiendo del equipo más especial e idóneo desde el momento mismo en que comienzan las operaciones de desembarco.

Entre las lecciones quirúrgicas que hemos aprendido se hallan las siguientes: (*a*) la necesidad de una "toilette" de la herida, incluyendo una inspección completa, limpieza, control de la hemorragia mediante ligadura, eliminación exclusiva del tejido necrosado o no viable y aproximación simple de los nervios y tendones seccionados a fin de facilitar la exacta reparación subsiguiente: (*b*) la necesidad de inmovilizar las extremidades que sean asiento de extensas heridas de los tejidos blandos; (*c*) la importancia del cierre de las heridas abiertas del tórax; (*d*) la necesidad de retardar la evacuación de los individuos con heridas craneanas o torácicas. En el tratamiento de las fracturas, que son generalmente compuestas y que constituyen un gran porcentaje de las bajas totales, debe tenerse muy en cuenta no sólo la inmovilización de la fractura sinos todos aquellos factores relacionados con la transportabilidad precoz y contínua del paciente. En consecuencia, la mejor manera de obtener la inmovilización en estos casos consiste en la aplicación de un enyesado. Como resultado del empleo universal del toxoide tetánico como profiláctico, no ha habido practicamente casis de tetanos entre los heridos de los Estados Unidos. La gangrena gaseosa ha sido comparativamente rara, debido principalmente a la prontitud con que se han tratado las heridas.

RÉSUMÉ

L'expérience et les procédures chirurgicales navales ont été modifiées dans l'Ocean Pacifique par la nature amphibie de la guerre et les grandes distances maritimes, qui ensemble compliquent l'approvisionnement du matériel et l'évacuation des blessés et des malades. La première considération est de fournir aux blessés le meilleur traitemen chirurgical aussitot que possible et aussi proche que possible du champ de bataille. Cela a été accompli par l'enseignement préliminaire donné aux jeunes chirurgiens pour les soins qu'ils doivent donner aux blessés. Des chirurgiens de grande expérience et des consultants sont toujours disponibles. Il y a en aussi une suffisance de tout ce qui est necessaire dés que la bataille commence.

On a appris qu'une toilette précoce et méticuleuse des plaies comprenant l'inspection soigneuse, le nettoyage, le contrôle de l'hémorragie au moyen de ligatures, l'ablation de tout tissu mort ou non-viable et la simple approximation des tendons et des nerfs coupés afin de faciliter la reparation exacte subsequente, est de la première importance. Il faut immobiliser au moyen d'atteles toute extrémité le siège de grandes blessures des tissus mous. Toute blessure aspirante de la poitrine demande

l'occlusion de la plaie Il ne sera apporté aucun retard dans l'évacuation des blessés de la tête et aussi des blessés de la poitrine Pour les fractures, qui presque toujours sont ouvertes (compound), non seulement on immobilisera la fracture mais on veillera a l'évacuation précoce du blessé Le plâtre de Paris est généralment le plus utile des matériaux immobilisants Grâce à l'emploie prophylactique du toxoid antitétanique, il n'y eut pas un seul cas de tétanos parmi les blessés militaires et marins des forces américaines La gangrène gazeuse fut relativement rare, cela est en grande partie due à la promptitude avec laquelle les blessés furent soignés

СВОД

Флотский хирургический опыт и методика в Великом океане подвергнулись изменению под влиянием земно водного характера войны и больших морских расстояний, которые осложнили как и снабжение, так и эвакуацию

Первой задачей было доставить наилучшую хирургическую помощь насколько возможно ближе к времени и месту действия Это было достигнуто предварительной тренировкой молодых хирургов в обращении с типами наиболее вероятных случаев, помощью старших более опытных хирургов в роли консультантов, и доступностью адэкватного и специально приспособленной аппаратуры с самого начала высадки

Среди хирургических уроков данных этим опытом были следующие необходимость раннего и старательного туалета раны, включая старательный осмотр, очистку, контроль кровотечения лигатурой, иссечение только безусловно мертвых или умирающих тканей, простое сближение прерванных сухожилий и нервов с целью облегчить последующую аккуратную починку, необходимость иммобилизацию миной конечностей, которые являются очагом широких ран мягких тканей, важность закрытия сосущих ран груди, необходимость отложить эвакуацию солдат с ранами груди или головы При лечении переломов, которые обыкновенно являются сложными и составляют значительный процент всех случаев, необходимо иметь в виду не только иммобилизацию перелома, а также и то что больной должен подвергнуться быстрой и продолжительной эвакуации Поэтому гипс был найден самым полезным миным материалом В результате общего профилактического применения токсоида, почти не было случаев столбняка среди раненных в армии Соединенных Штатов Газовая гангрена случилась сравнительно редко, главным образом благодаря быстроте помощи

ANEURYSMS IN REGION OF CIRCLE OF WILLIS

(Continued from page 325)

vient une branche de l'artère carotide externe par raison des anastomoses avec les artères correspondantes du côte apposé de la face et du cou La ligature retardée de la carotide interne permettra le développement d'une circulation collatérale centripetale de la cavité cranienne protégeant contre presque toutes les complications que pourrait entrainer la ligature primaire

La bibliographie qui accompagne l'article renferme 363 références datant de 1807 jusqu'a nos jours

NOTE The Russian summary will be published in the next issue

Huge Pedunculated Fibrolipoma

Report of Two Cases and Review of the Literature on Vulvar Fibromas

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WHILE pedunculated fibrolipomas are relatively common tumors and have been reported as occurring in a multiplicity of sites,[1] it is extremely exceptional in urban centers to encounter cases in which they have been allowed to attain great size. The psychologic situation involved wherein patients to whom medical care is readily available will tolerate these deformities for years, despite assurances that only a minor surgical procedure and minimal morbidity are entailed in cure, merits serious attention. Similar prolonged mental resistance to therapy constitutes a crucial aspect of the problem of cancer and poses an important question for solution in both public health and psychiatry.

Because of their gross and microscopic similarity, the two tumors here reported are considered together. However, as a notably rare entity, the vulvar tumor merits special discussion. Benign neoplasms of the vulva, particularly of mesodermal origin, are much less common than epithelial growths.[2, 3] Of the intralabial growths, many seem to originate from the round ligaments, particularly the cystic variety.[4, 5] According to Brady[4] and Folsome,[6] fibromas of this region are generally sessile, and only about 175 cases have been reported. Approximately 20 per cent of the growths appear ultimately to become sarcomatous.[4] As an index of the infrequency of this type of tumor, Burr[7] reported 1 fibroma occurring in 5,000 gynecologic cases, and Leonard[8] described 6 instances in 23,000 gynecologic admissions to the Johns Hopkins Hospital. Dubrovsky[9] discussed 6 such tumors, 4 angiofibromas and 2 diffuse fibromas of the labia, in 3,000 hospitalized female patients.

Large pedunculated tumors of the vulva akin to the one herein cited are true medical curiosities, search of the literature revealing only the following few published examples. Dubrovsky[9] mentioned a pathologic specimen acquired by the Warren Anatomical Museum of Harvard University in 1891 which had attained the enormous weight of 120 Kg. Taussig[10] recounted as unique the case of Lovelace, with an apron-like tumor weighing 44 pounds (20 Kg.). Geroulanos[11] presented a case of fibromyoma of the vulva weighing 8.5 Kg. Ves Losados'[12] description is of a pedunculated fibroma of the labia majora weighing 1,800 Gm. Bazan[13] and Uchiho[14] briefly mentioned instances of large labial fibrolipomas. De Tarnowsky[15] in a recent report described a pedunculated fibrolipoma reaching halfway down the thigh, weighing 1,270 Gm., as well as 2 large sessile vulvar tumors Mosto and Radice.[16] in their survey of primary vulvar tumors, included a pedunculated fibromyxoangioma of the labia majora De Godoy and Delascio[17] reported a case of giant vulvar papilloma, an epithelial tumor grossly resembling those under discussion but falling clinically into the group of condylomata acuminata.

REPORT OF CASES

Case 1 —Mrs P S, aged 51 of Jewish extraction a multipara living with her husband was first seen April 13 1942 For the past fifteen years she had had a tumor gradually increasing in size growing from the right labium majus The patient had been in otherwise good health, the menopause had occurred seven years prior to her admission Except for moderate obesity and great nervousness, no physical findings of relevance were present Laboratory examinations revealed no data of unusual significance Under cyclopropane anesthesia the skin and superficial fascia at the base were incised and the tumor was removed Recovery was uncomplicated with primary healing of the wound

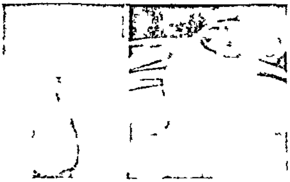

Fig 1 Pedunculated fibrolipoma of the right labium majus The photograph on the right shows the superficial ulcer at the apex of the tumor

The specimen removed was a tumor (fig 1) hanging down to the knees of the patient, composed of a mass 14 cm in diameter attached to a pedicle 6 cm in diameter, with a large superficial ulcer at its lowermost extremity The mass weighed 2 pounds (0 9 Kg) On section it was composed of lobulated adipose tissue with numerous fibrous strands On microscopic examination the tumor proved to be a fibrolipoma with adipose tissue in predominance

Case 2 —Mrs L E, aged 47, of Jewish extraction a multipara was seen May 22 1943 For the past twenty years she had had a slowly growing tumor arising from the upper part of the left arm on its posteromedial aspect near its junction with the axilla The patient's general health was otherwise good, and physical examination was in all other respects noncontributory

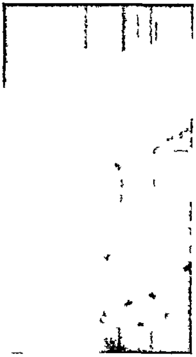

Fig 2 Pedunculated fibrolipoma of the axilla

The laboratory findings were essentially within normal limits With the area under local anesthesia, the tumor was removed by incising the skin and superficial fascia of the arm The wound healed by primary intention

The specimen removed was a large, pedunculated, soft mass covered with skin, with two small superficial ulcerations on one side, weighing 18 ounces (500 Gm) On cut section, the tumor was found to consist of fatty tissue interspersed with fibrous strands The microscopic diagnosis was fibrolipoma

SUMMARY

Two cases of pedunculated fibrolipoma are presented, and the literature on fibromas of the vul ed

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SUMARIO

Los autores presentan 2 casos de fibrolipoma muy grande. Uno de los tumores se originaba en la vulva y colgaba hasta las rodillas. El otro fibrolipoma, en el brazo superior, pesó 18 onzas (más que 500 gramos) cuando fué extirpado. Los autores repasan en pocas palabras la literatura de la fibroma de la vulva, tumor extremamente raro.

RÉSUMÉ

Deux cas de volumineaux fibrolipomes pédiculés sont considérés dans ce rapport. Une des tumeurs avait son origine dans la vulve et pendait jusqu'aux genous de la malade. L'autre avait son origine dans la partie supérieure du bras et pesait 18 onces (plus de 500 grammes). La littérature des fibromes de la vulve est étudiée et analysée.

СВОД

Доложено два случая необыкновенно большой стебельковой фибролипомы. Одна опухоль имела вульварное происхождение и висела до колен больной. Вторая опухоль находилась в верхней части плеча и достигла по весу 500 грамов. Дан краткий обзор литературы о фибромах вульвы, которые очень редки.

NEWS AND ANNOUNCEMENTS

UNITED STATES CHAPTER

The **Hudson Valley Guild** of the United States Chapter of the International College of Surgeons will hold a meeting in cooperation with St. Francis Hospital on Monday evening, **October 1.** The County Medical Society will be invited. The meeting is being arranged by Dr. Max Michael Simon of Poughkeepsie, N. Y., president of the Guild, and the committee on arrangements consists of Drs. J. E. McCambridge, J. J. Toomey, R. J. Boyce, H. A. Benson and Clifford A. Crispell. Dr. Albert A. Berg, International President Elect of the College, will be the guest of the Guild and will read a paper on "Ulcerative Colitis." Before the evening meeting, the Guild will entertain Dr. Berg at a dinner. Further information may be obtained from Dr. Simon.

Subtotal Gastric Resection for Peptic Ulcers

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OMAHA, NEB.

In this last decade much has been said and written about the surgical treatment of the peptic ulcer, but one must not forget that this treatment must be for the complicated ulcer and not for the simple ulcer. I have felt for some time that 80 to 85 per cent of peptic ulcers can be successfully treated under medical management. In some instances, however, the conservative treatment fails, and the ulcer becomes penetrating and adherent to adjacent structures. It is well to realize that in such cases (which should not comprise over 15 to 20 per cent of the total number) surgical intervention must be advised in order to reduce further complications.

Continental European surgeons for several decades have advocated and employed subtotal gastric resection as the treatment of choice for peptic ulcer. In the United States, surgeons have, with few exceptions, been hesitant in adopting this method until late years, but certain recent experiences have contributed toward the acceptance of the procedure. These experiences have revealed that (1) subtotal gastric resection can be done with a low operative risk, comparable to that of the more conservative operative procedures, (2) unsatisfactory results have been obtained with gastroenterostomy and with various plastic procedures employed about the pylorus for the treatment of peptic ulcer, (3) subtotal gastrectomy is an anatomic and physiologic operation.

There has been a great deal of confusion as to the exact nature of a good gastric resection for the treatment of peptic ulcer. A satisfactory procedure must be on a sound anatomic and physiologic basis. The subtotal gastric resection is based upon the premise that high concentrations of gastric acid tend to cause ulcers to develop, or to persist or recur, and that peptic ulcer does not occur in the presence of complete or persistent achlorhydria. Such achlorhydria can be achieved only by removing two thirds to three fourths of the stomach along with the ulcer and the spastic portion of the duodenum. A properly executed resection must consist of removing (1) the ulcer, either duodenal or gastric, (2) the vulnerable portion of the duodenum, (3) the spastic pylorus and the antral tissue, and (4) a part of the acid secreting portion of stomach. When gastrointestinal continuity is restored, an anacidity is produced by allowing regurgitation of alkaline duodenal contents after meals so that the gastric phase of secretion is reduced.

Long years of experience in this country and abroad have revealed nine complications which are widely accepted indications for this surgical procedure: (1) intractable ulcer, (2) ulcer complicated by massive hemorrhage, (3) pyloric obstruction due to a stenosing ulcer, (4) perforation; (5) a gastric lesion which demonstrates lack of ability to heal, (6) a gastric lesion which can

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From the Department of Surgery, Creighton School of Medicine.

not be differentiated from carcinoma: (7) gastrojejunal ulcer: (8) sphincter ulcer: (9) gastrocolic fistula. Some persons cannot be submitted to this surgical procedure, no matter how desirable the operation may be, because of a prohibitive risk of a fatal outcome due to poor physical condition or extreme obesity.

In attempting gastric resections one must bear in mind that the risk of fatality must be low or lower than with the accepted conservative procedures, and that some type of gastrointestinal anastomosis must be done which will permit the gastric emptying phase to be nearly normal.

A patient being prepared for gastric resection must be allowed to restore his high gastric acidity. He is given a high caloric, high protein, high carbohydrate and high vitamin diet. The necessary laboratory studies consist of gastric analysis, complete blood count, urinalysis, *typing and matching* of blood and blood urea. Should obstruction be present, decompression of the stomach with a Levin tube and constant suction is necessary for several days to a week to relieve the edema of the gastric walls. If the condition of the individual seems weakened, transfusions of blood or plasma and intravenous feedings are given. During this time the patient must be heavily fortified with vitamin K, vitamin B complex and large doses of ascorbic acid.

The day before the operation, the patient is not allowed an evening meal and is permitted to drink only ice water. That evening a thorough cleansing enema is given. The abdomen and the chest are surgically prepared, and gastric lavage is carried out, after introduction through one nostril of two Levin tubes which have been previously prepared as described by Mersheimer.[1] Three grains (0.18 Gm.) of sodium phenobarbital is given hypodermically to insure the patient a good night's rest.

Nothing by mouth is allowed the morning of the operation, and morphine sulfate with *atropine* sulfate is given one hour before the operation. My associates and I have found cyclopropane and ether to be the anesthetic of choice, although we have used spinal analgesia with good results. Ten per cent dextrose solution in sterile distilled water is allowed to run in slowly by vein during the operation, or a transfusion of blood or plasma may be given if necessary.

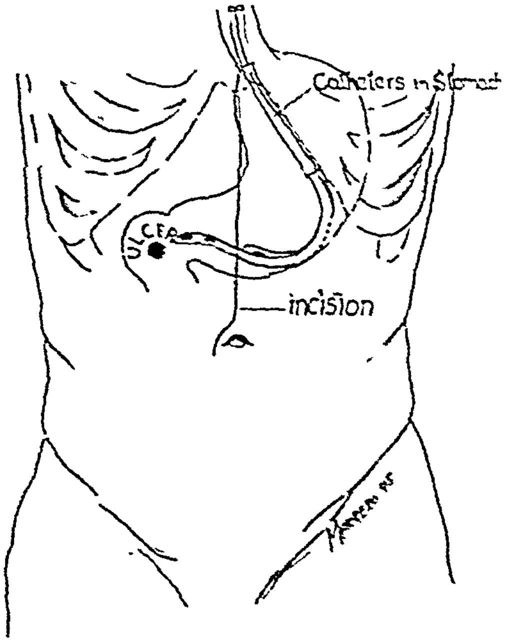

Fig. 1. The stomach and duodenum are exposed by a high midline incision between the rectus muscles, extending from the ensiform cartilage to just below the umbilicus to the right.

It has been our experience that an anterior anastomosis is more satisfactory than a posterior one, as there is less danger of obstruction and the operation is more easily done. It is well to remember that an ulcer can recur at the gastrojejunal anastomosis even after an adequate resection, and when surgical intervention is necessary, a resection of the resected stomach is easier and safer when the anastomosis has been anterior

TECHNIC

(Fig 1) The stomach and duodenum are exposed by a high midline incision between the rectus muscles, extending from the ensiform cartilage to just below the umbilicus on the right This incision permits an easy exposure of the duodenum and an easy approach to the lesser curvature of the stomach, as high as may be necessary for resection Exploration of the abdomen is then carried out, the site of the ulcer is visualized and its character and relationship to the surrounding structures determined It is then decided whether the ulcer can be removed and whether the resection can be done without undue hazard

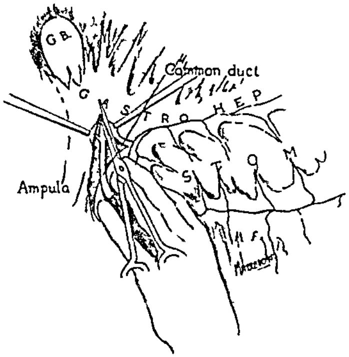

Fig 2 The free lateral border of the duodenum is mobilized by a division of the peritoneum in its upper border and by rotation of the duodenum medially the common duct is exposed

If the ulcer can be removed and resection can be carried out, the operation is continued The wound is protected by covering the edges with square abdominal packs, and a great deal of effort is made to avoid spilling throughout the operation, which will eliminate visceral and abdominal contamination

Before mobilization of the stomach is begun the relation of the ulcer and the duodenum to the common duct and to the ampulla of Vater must be established, for occasionally we have found a duodenal ulcer so low that it would not permit a safe closure of the duodenum without producing a stricture or obstruction of the common duct or the sphincter of Oddi (Fig 2) By mobilizing the free lateral border of the duodenum, dividing the peritoneum in its upper border and rotating the duodenum medially, its relation to the gastrohepatic omentum can be easily recognized An incision is then made through the peritoneal fold covering the common duct, exposing it and permitting recognition of the relation of the common duct and the ampulla of Vater to the ulcer Then one can readily say whether the ulcer can be removed and sufficient duodenum be left for safe closure

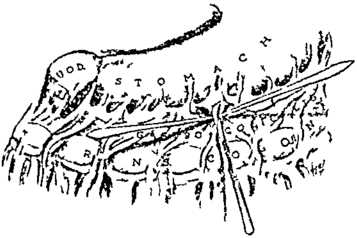

Fig 3 The border of the stomach along the greater curvature is elevated, and the lesser omental cavity is opened by division of the gastrocolic omentum

The site of anastomosis is then located and mobilization of the stomach is begun, which must be in the proximal third of the stomach. (Fig. 3) The border of the stomach along the greater curvature in that area is elevated, and the lesser omental cavity is opened by division of the gastrocolic omentum. (Fig. 4) The right index finger is passed through the rent of the gastrocolic omentum and carried posterior to the stomach up through the gastrohepatic omentum. (Fig. 5) A sponge is drawn through posterior to the stomach, and the two free ends are grasped together with a forceps to provide a means of elevation or traction to the stomach. (Fig. 6) Mobilization of the greater curvature is continued to the left. (Fig. 7) The stomach is pulled down, and the left gastric artery is doubly tied at a high level along the lesser curvature with a suture of cotton. The resection level is established, and the borders of the greater and lesser curvature are cleansed of omental tissue in order to permit a clean approximation of the gastrojejunal walls.

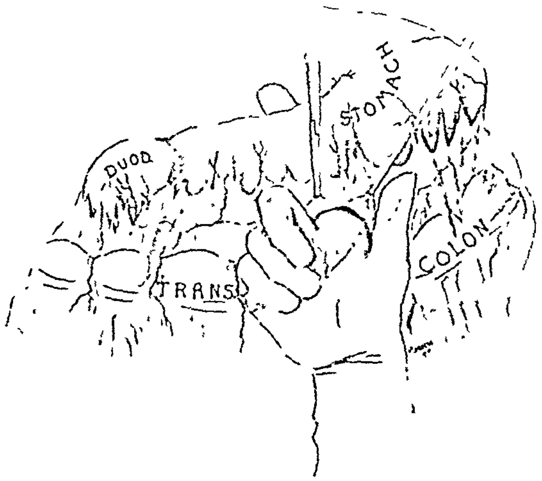

Fig. 4. The right index finger is passed through the rent of the gastrocolic omentum and carried posterior to the stomach up through the gastrohepatic omentum.

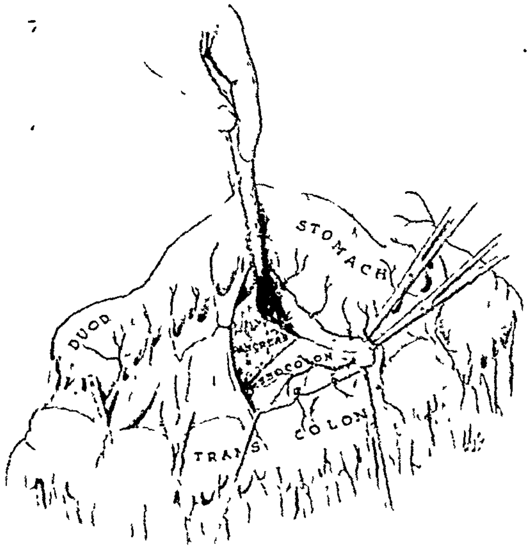

Fig. 5. A sponge is drawn through posterior to the stomach, and the two free ends are grasped together with a forceps.

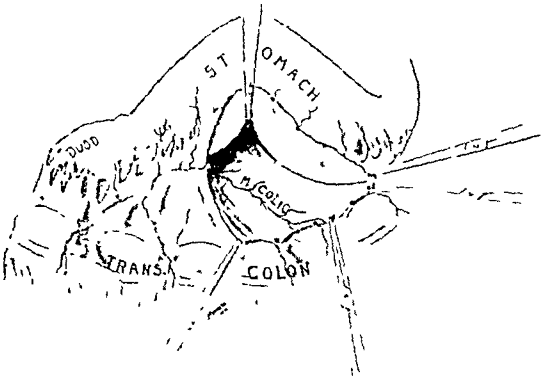

Fig. 6. Mobilization of the greater curvature is continued to the left.

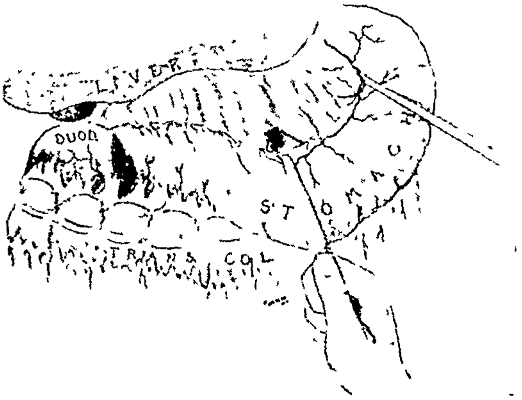

Fig. 7. The stomach is pulled down, and the left gastric artery is doubly tied.

(Fig. 8) The part of the jejunum which is to form the anastomosis is searched for and brought anterior to the colon.

The Levin tubes are located in the stomach and pushed upward toward the cardia. (Fig. 9) The site of the anastomosis is definitely established, light intestinal clamps are applied at right angles to the stomach at this level and the stomach is then transected. (Fig. 10) The cut ends of the stomach are swabbed with Novak's solution, and the distal end of the stomach is covered with an abdominal pack and turned to the right. (Fig. 11) The proximal stump of the stomach is lifted up, and the upper half of the stoma is closed by a running locked suture of No. 0 chromic catgut and then reinforced by a Lembert running suture of No. 0 chromic catgut, and again reinforced by a Lembert running suture of cotton. (Fig. 12) The gastrojejunal anastomosis is then com-

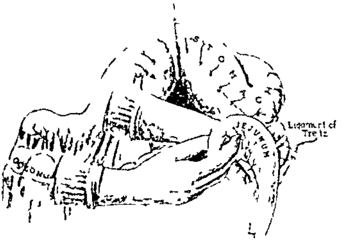

Fig 8. The part of the jejunum which is used to form the anastomosis is searched for and brought anterior to the colon

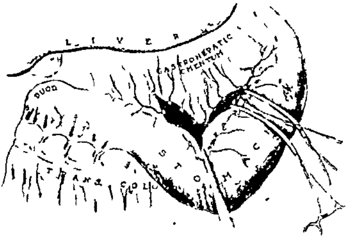

Fig. 9. Light intestinal clamps are applied at right angles to the stomach at the site of the anastomosis, and the stomach is transected.

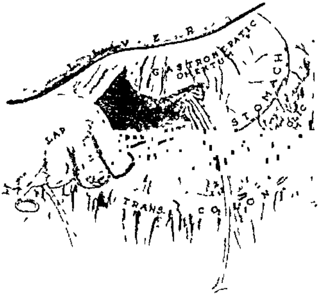

Fig. 10. The cut ends of the stomach are swabbed with Novak's solution, and the distal end of the stomach is covered with an abdominal pack and turned to the right.

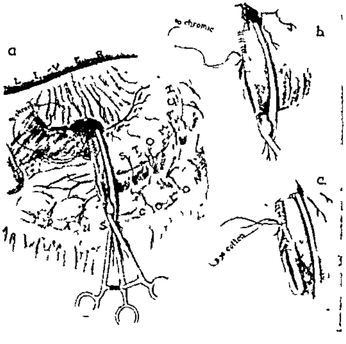

Fig. 11. The upper half of the stoma of the proximal stump of the stomach is closed by a running locked suture of No. 0 chromic catgut, then reinforced by a Lembert running suture of [illegible] chromic [illegible] and again reinforced [illegible] ning [illegible]

pleted as follows: A loop of jejunum is brought anterior to the transverse colon, and an anastomosis is made about 15 to 20 cm. from the ligament of Treitz by attaching the distal jejunal loop to the greater curvature of the stomach just posterior to the open stoma, with a continuous suture, of cotton, and attaching the proximal loop to the lesser curvature of the stomach. (Fig. 13) The jejunum is then incised longitudinally and opened, and a dry sponge is inserted into the lumen and the contents swabbed out to prevent spilling. The light clamp is removed from the stomach, and a dry sponge is likewise inserted into the stoma and the contents swabbed out. The sponges are removed from the two stomas, and a second posterior suture of No. 0 chromic catgut is begun at the greater curvature of the stomach and carried through all layers of jejunum and gastric walls as an interlocking

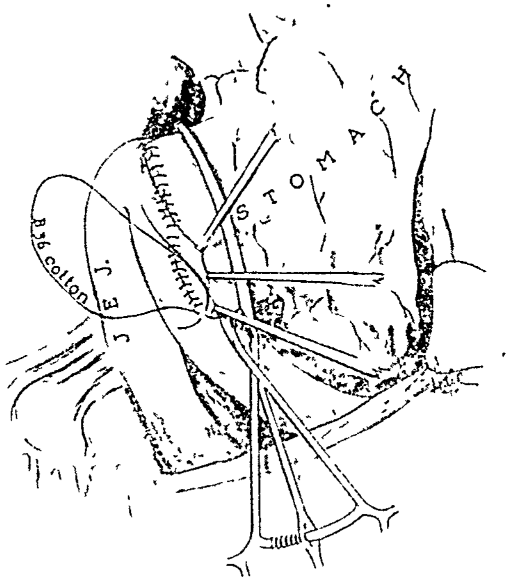

Fig. 12. The jejunal loop is brought anterior to the transverse colon and is attached posterior to the open stoma of the stomach.

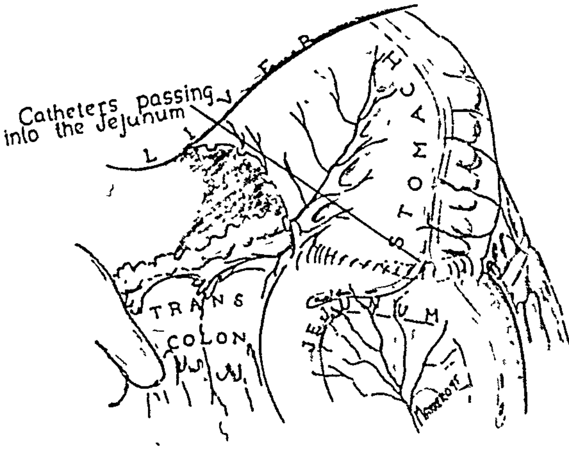

Fig. 14. The gastrojejunal anastomosis is complet

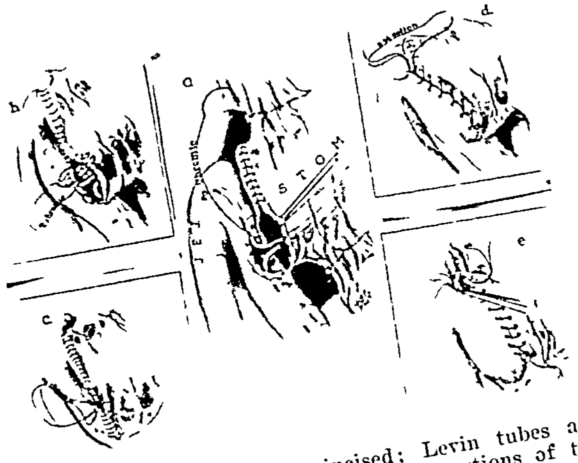

Fig. 13. The jejunum is incised; Levin tubes are passed into the distal and proximal portions of the jejunum, and the gastrojejunal anastomosis is completed.

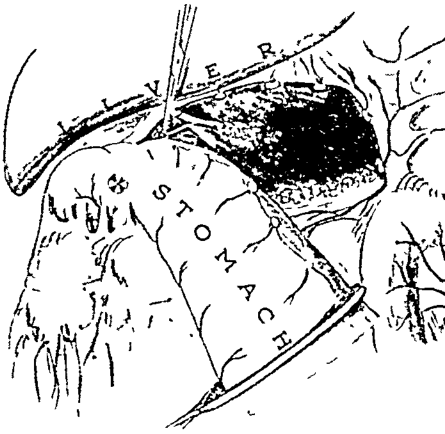

Fig. 15. The stomach is pulled down, an
gastric artery is doubly ligate

stitch. Before the anastomosis is completed the Levin tubes are located in the stomach, brought out and swabbed with Novak's solution. The multiple perforated Levin tube is placed in the proximal end of the jejunum to be used for suction of duodenal, jejunal and gastric contents. The less perforated tube is placed in the distal jejunal loop and is used for jejunal feeding and if necessary for drainage of the jejunal contents. The posterior interlocking suture is continued anteriorly left to right as Connell stitch inverting the jejunal and gastric edges securely and closing the orifice completely. The anterior suture line is again reinforced by a Lembert running suture of No. 0 chromic catgut from right to left, attaching the jejunal loop beyond the stoma over the closed inverted end of the transected stomach, and this is again reinforced by a running suture of cotton. The gastrojejunal angles are reinforced by suturing the divided gastrocolic omentum and gastrohepatic omentum with cotton, care being taken that no angulation of the jejunum occurs. (Fig. 14) This completes the gastrojejunal anastomosis.

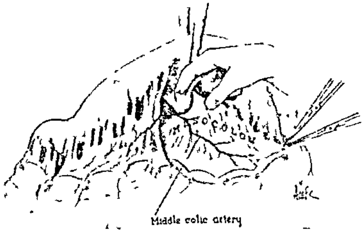

Fig 16. The gastric stump is pulled upward and is mobilized by pushing back the fused mesocolon containing the middle colic artery

(Fig. 15) The abdominal pack covering the distal gastric stump is removed, the stomach is pulled down, the right gastric artery is doubly ligated with a suture of cotton close to the duodenum and the gastrohepatic omentum is cut. (Fig. 16) The gastric stump is then pulled upward, and the antral region is mobilized by pushing the fused mesocolon containing the middle colic artery back gently with gauze, without hemorrhage or injury to the artery. (Fig. 17) The stump is raised, and the gastrocolic omentum is ligated and tied down to the duodenum with cotton; if adhesions are present one can easily divide them as far as the attachment of the pancreas and the duodenum under direct vision without injury to the pancreas. (Fig. 18) Two light clamps are applied at the pyloric end of the stomach, and the distal stump is removed. (Fig. 19) The clamp holding the pyloric end of the duodenum is removed. The edges of the pyloric stoma are grasped with an Allis forceps, the stoma is opened, the contents are aspirated and the area is swabbed with Novak's solution. The

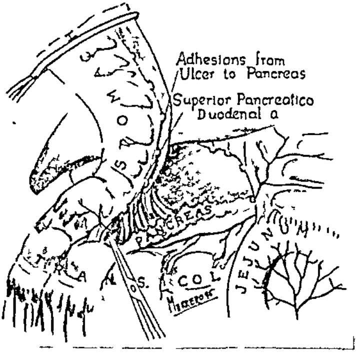
Adhesions from Ulcer to Pancreas
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Fig. 17. The gastric stump is raised and the gastro colic omentum is ligated to the right; the duodenal adhesions are divided away from the pancreas

pylorus and duodenum are cut longitudinally to just beyond the ulcer and then transversely, with removal of the portion of the duodenum containing the ulcer along with the pylorus. (Fig. 20) The edges of the duodenal stoma are grasped with an Allis forceps, and the duodenum is lifted up so that no contents are spilled. The duodenum is closed by a continuous locking suture of No. 0 chromic catgut and inverted by continuous Lembert suture of No. 0 chromic catgut and again reinforced by a continuous Lembert stitch of cotton. (Fig. 21) The duodenal closure is further reinforced by suturing the capsule of the pancreas with a continuous stitch of cotton over the duodenal closure, and this is reinforced by suturing the divided ends of the gastrocolic and gastrohepatic omentum over it. If the ulcer has penetrated the posterior portion of the duodenum and is closely adherent to the head of the pancreas, no effort is made to remove the ulcer, for its base consists of pancreas and scar tissue, and to attempt removal would result in severe hemorrhage, which would be difficult to

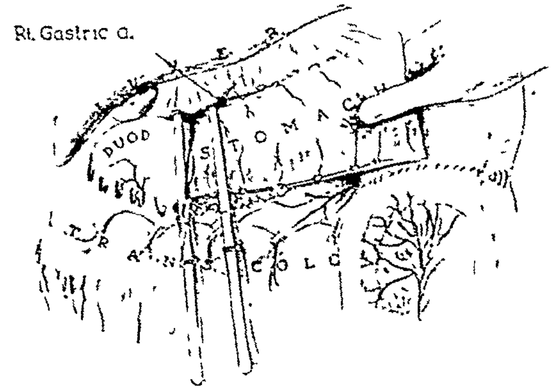

Fig. 18. The pyloric end of the stomach is clamped, and the distal gastric stump is removed.

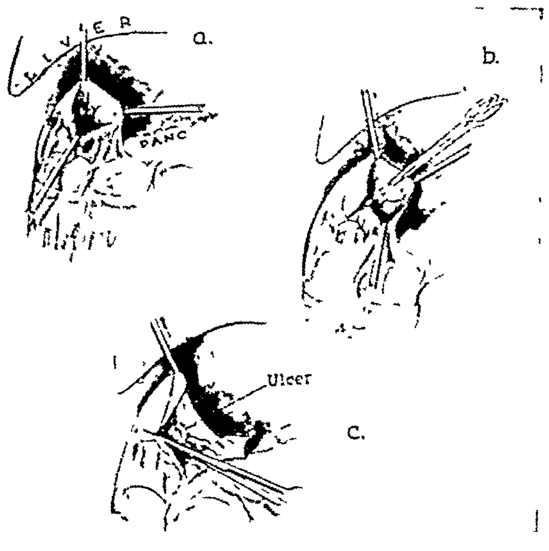

Fig. 19. The pyloric stoma is grasped with an Allis forceps; the pylorus and duodenum are cut longitudinally to just beyond the ulcer and then transversely, the portion of the duodenum containing the ulcer being removed along with the pylorus.

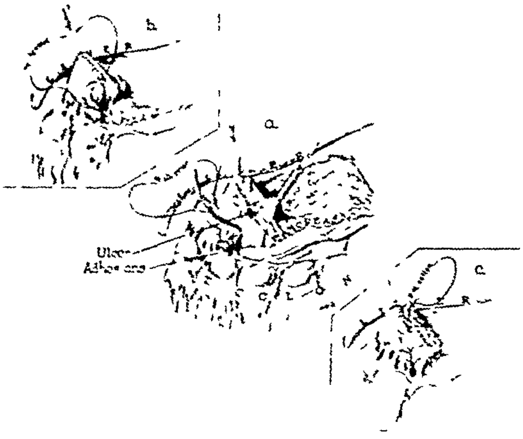

Fig. 20. The duodenum is closed.

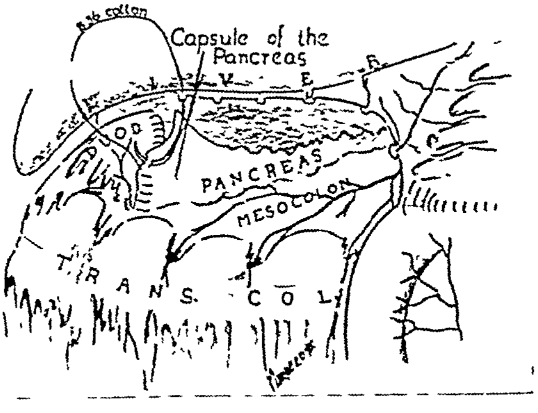

Fig. 21. The duodenal closure is reinforced by suturing the capsule of the pancreas over it.

control. Therefore, by lifting the rim of the duodenum away from the ulcer and leaving the base intact, the duodenal stoma can be safely closed without undue risk. If the ulcer is closely adherent to the common duct or to the ampulla of Vater, the ulcer and that part of the duodenum cannot successfully be removed without the closure's causing occlusion of the common duct or the ampulla of Vater. In this instance the ulcer is left intact and the duodenal *opening is closed as previously* described. This procedure has been followed in several cases with good results. (Fig. 22) This completes the gastric resection. All abdominal sponges and packs are accounted for, and the abdominal cavity is inspected for all bleeding points and if necessary ligated with a suture of cotton. Then 2.5 Gm. of sulfanilamide and 2.5 Gm. of sulfathiazole are sprinkled over the region of the gastrojejunal anastomosis and over the duodenal closure. The peritoneum and the rectus sheath are closed with a figure eight interrupted suture of cotton. The wound is washed out with ether and 2.5 Gm. of sulfanilamide is sprinkled over the wound, and the edges of skin are approximated with a continuous lock stitch of cotton.

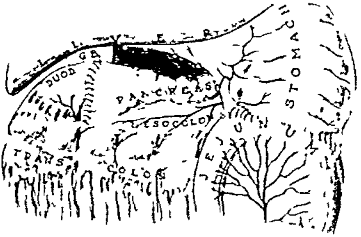

Fig 22. This completes the gastric resection.

POSTOPERATIVE CARE

To increase hyperventilation and to prevent immediate surgical shock, an ampule of solution of nikethamide (coramine; 25 per cent solution of pyridine betacarboxylic acid diethylamide) or of pentamethylenetetrazol (metrazol) is given before the patient leaves the operating room, another ampule is given on his arrival in his own room, and 1 ampule is given every fifteen minutes thereafter until three more doses have been given. Gastric suction is immediately begun, and a transfusion of whole blood is given intravenously. To insure patency of the Levin tube and to prevent occlusion of the lumen by mucus or by gastric contents, 10 cc. of isotonic solution of sodium chloride is instilled through each tube every hour for several days. Opiates are given for the relief of pain when necessary, and deep breathing exercises as well as frequent changes of position are prescribed. Dextrose solution (10 per cent in 1,000 cc. of sterile distilled water) is given intravenously every twelve hours for four or five days. A transfusion of blood or of plasma may be given on the second or third postoperative day for the prevention of hypoproteinemia. Ascorbic acid, 1 Gm., and vitamin B complex, 1 ampule, are given once daily for four or five days for rapid healing. Vitamin K, 1 ampule every twelve hours for four or five days, is given for the prevention of bleeding. Feeding of water by mouth is started immediately in 1 teaspoonful doses, and the amount is increased until 3 ounces is given every half-hour. The patient is urged to chew gum frequently. Jejunal feedings may be started on the second or third day. Ten cubic centimeters of 10 per cent solution of sodium thiosulfate is given intravenously, starting on the third postoperative day, once daily for four or five doses, for the prevention of thrombosis, phlebitis and pulmonary embolism. The Levin tubes are removed on the fifth postoperative day, and feedings by mouth are begun at that time and increased in amount until a normal diet is taken by the third week. No tobacco, alcohol or coffee is allowed for an indefinite period, and multivitamins are to be taken before each meal. The patient is allowed to sit up in bed on the second day and in a chair by the fifth day; he is permitted to be up and about on the sixth day and is urged to keep active until he is able to return to work, which may be from five to six weeks.

The complications encountered during convalescence, with no deaths, were: massive pulmonary collapse, 3 cases; ruptured duodenal stump, 1; subdiaphragmatic abscess, 1; obstruction of the proximal jejunal loop, 1; abscess of the wound, 5. My associates and I have had 1 death from toxic hepatitis in a series of 60 resections of the stomach for duodenal, gastric and jejunal ulcers with the modified procedure (a mortality of 1.7 per cent). The results have been highly satisfactory, and reexamination of the patients every three months has not revealed any recurrence of ulcer at the gastrojejunal stoma to date.

SUMMARY AND CONCLUSIONS

Surgical treatment is used for complicated, not for simple, peptic ulcer.

Subtotal gastric resection is the treatment of choice for the complicated peptic ulcer.

The indications for the surgical procedure have been: (1) intractable ulcers; (2) ulcers complicated by massive hemorrhage; (3) pyloric obstruction due to stenosing ulcers; (4) perforations; (5) gastric lesions which demonstrated lack of ability to heal; (6) gastric lesions which could not be differentiated from carcinoma; (7) gastrojejunal ulcers; (8) sphincter ulcers; (9) gastrocolic fistula.

The preoperative treatment has consisted of: (1) allowing the patient to restore his high gastric acidity; (2) completing all necessary laboratory studies; (3) decompression of the stomach for several days to a week, if obstruction was present; (4) administration of blood transfusion, blood plasma and intravenous feedings, if the condition of the individual seemed weakened; (5) administration of large doses of vitamin K, vitamin B complex and ascorbic acid.

The technic for the gastric resection which has been adopted and carried out has been the Hofmeister modification of the Polya method, using the anterior open anastomosis.

Postoperative treatment as carried out has consisted of: (1) blood transfusions and administration of 10 per cent dextrose in sterile distilled water intravenously; (2) continuous gastric and duodenal drainage with a Levine tube, for four to five days; (3) large doses of vitamin K, vitamin B complex and ascorbic acid; (4) jejunal feedings starting on the second postoperative day; (5) administration of opiates for pain; (6) feedings by mouth starting on the fifth postoperative day; (7) having the patient up and about on the sixth postoperative day.

Subtotal gastric resection can be done with as low a mortality rate as the accepted conservative procedures.

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RESÚMEN

El tratamiento quirúrgico no está indicado en las úlceras pépticas simples pero si en las complicadas.

La gastrectomía subtotal es el método operatorio de elección.

Las indicaciones para el tratamiento quirúrgico han sido: (1) ulceras intratables; (2) ulceras complicadas con hemorragias masivas; (3) obstruccion pilórica debida a úlceras estenosantes: (4) perforaciones; (5) lesiones gástricas que demuestran incapacidad de curar; (6) lesiones gástricas que no pueden ser diferenciadas del carcinoma; (7) ulceras gastroyeyunales; (8) ulceras esfinterianas; (9) fístula gastrocólica.

El tratamiento preoperatorio ha consistido en: (1) permitir que el enfermo restaurare su alta acidez gástrica; (2) completar todos los estudios de laboratorio necesarios; (3) usar, en presencia de obstrucción, la descompresión gástrica durante algunos días o una semana; (4) hacer transfusiones de sangre o plasma y recurrir a la alimentación por vía endovenosa en caso de que el enfermo se muestre debilitado; (5) administrar grandes dosis de vitamina K, complejo vitamínico B y ácido ascórbico.

La técnica elegida y llevada acabo para ésta resección gástrica ha sido la modificación de Hofmeister al método de Polya, usando la anastomosis abierta anterior.

El tratamiento postoperatorio instaurado fué el siguiente: (1) transfusiones de sangre y administración intravenosa de una solución de dextrosa al 10 por ciento en agua destilada y esterilizada; (2) drenaje gástrico y duodenal continuo con tubo de Levine durante cuatro o cinco días; (3) grandes dosis de vitamina K, complejo vitamínico B y ácido ascórbico; (4) alimentación yeyunal al segundo día postoperatorio; (5) administración de opiáceos contra el dolor; (6) comenzar la alimentación por la via oral al quinto día postoperatorio; (7) levantar al enfermo aproximadamente a los seis dias de la operación.

La resección gástrica subtotal puede llevarse a cabo con un índice de mortalidad tan bajo como en los procedimientos conservadores aceptados.

RÉSUMÉ

Le traitement chirurgical est employé dans les cas d'ulcère peptique compliqué, et non dans les cas d'ulcère simple. L'opération de choix est la résection sous-totale gastrique.

Les indications sont les suivantes: *(a)* les cas que le traitement médical ne controle pas; (*b*) les ulcères compliquées d'hémorrhagie massive; (*c*) les obstructions pyloriques dues aux ulcères sténosants; (*d*) les lésions gastriques qui ne montrent aucune tendance de gúerir; (*e*) les lésions gastriques difficiles à différencier du carcinome; (*f*) les ulcères gastro-jéjunaux; (*g*) les ulcères siegeants aux sphincters; (*h*) les fistules gastro-coliques.

Le traitement pré-operatoire doit être: (*a*) permettre au malade de restaurer une haute acidité gastrique; (*b*) achever les études nécessaires de laboratoire; *(c)* décomprimer l'estomac pour plusieurs jours ou une semaine si il y a des signes d'obstruction; (*d*) transfusion du sang ou du plasma et alimentation intraveineuse si le malade parait affaibli; (*e*) doses massives de vitamine K, de vitamine B complexe et d'acide ascorbique.

La technique de resection gastrique que l'auteur a adoptée est la methode de Polya modifiée par Hofmeister, employant l'anastomose antérieure.

Le traitemente post-operatoire employé par l'auteur est: (1) transfusion et administration intraveineuse d'une solution de 10 pour cent de dextrose dans l'eau distillée et sterilisée; (2) drainage continuel de l'estomac et

duodénum avec le tube Levine pour quatre ou cinq jours; (3) fortes doses de vitamine K, de vitamine B complexe et d'acide ascorbique; (4) alimentation jéjunale après le deuxième jour post-opératoire; (5) opiacées pour la douleur; (6) alimentation par la bouche après le cinquième jour post-opératoire; (7) permettre au malade de se lever après le cinquième jour post-opératoire.

La résection sous-totale gastrique donne une mortalité pas plus élevée que celle des procédures conservatives généralement pratiquées.

СВОД

Хирургическое лечение применяется для осложненной, а не простой желудочной язвы.

Предпочитается субтотальная желудочная резекция.

Найдены были следующие показания на хирургическое вмешательство:

(1) Язвы не подающиеся лечению; (2) язвы, осложненные массивным кровоизлиянием; (3) обструкция pylorus'а стенозными язвами; (4) перфорация; (5) желудочные поражения неизлечимость которых была показана; (6) желудочные поражения, которые нельзя отличить от рака; (7) желудочно-тонкокишечные язвы; (8) язвы свинктера; (9) желудочно-большекишечной свищ.

Предоперационная подготовка: (1) больному дана возможность восстановить его высокую желудочную кислотность; (2) завершение всех необходимых лабораторных изысканий; (3) если существует обструкция, то применяется дэкомпрессия желудка, продолжающаяся от нескольких дней до недели; (4) если больной очень ослаблен применяется переливание крови и плазмы и внутривенозное питание; (5) даются большие дозы витаминов К, В комплекс и С.

Принятой и выполненной техника желудочной резекции явилась Hofmeister модификация методики Polya, пользующейся передним открытым анастомозом.

Послеоперационный режим: (1) переливание крови и внутривенозное вливание 10% дэктрозы в стерильной дистиллированной воде; (2) непрестанный в течении четырех или пяти дней желудочный и дуоденальный дренаж при помощи трубки Левина; (3) большие дозы витаминов К, В комплекс и С; (4) тонкокишечное питание со второго послеоперационного дня; (5) препараты опия для болей; (6) питание через рот с пятого послеоперационного дня; (7) разрешение подняться с кровати на шестой послеоперационный день.

Субтотальная желудочная резекция может быть произведена с тем же процентом смертности, как и при общепринятых консервативных способах.

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Torsion of the Gallbladder Associated With Acute Appendicitis

C W HUSBAND M D F I C S, and N L SCHMITT, M D
DETROIT MICH

CASES of torsion of the gallbladder are extremely rare We are reporting this case for several reasons first, only about 80 cases have been reported, and the majority of these were recorded in foreign journals, second, we have been unable to find any mention of the condition in textbooks, third, our patient was the oldest one reported who was operated on and lived, fourth, our patient had also an acutely inflamed appendix, which was removed at the same time as the gallbladder

A review of the literature revealed that torsion of the gallbladder was first reported by Wendel[1] in 1898 Further search revealed that the condition has a rather definite clinical pattern and that diagnosis should be considered a possibility in certain instances

By far the largest portion of the patients reported on have been women, and the great majority of them were women over the age of 50 In fact, a good number of them were women over 70 So when a woman over 70 who has previously been well suddenly is taken ill with acute pain located in the upper part of the abdomen, possibly followed by some degree of shock, associated with nausea and vomiting but not with jaundice, when the previous history is not pertinent and when examination reveals tenderness of the right side, more severe in the upper right abdominal quadrant, with suspicion of, or a definite, tender mass in the upper right abdominal quadrant, the possibility of torsion of the gallbladder should be thought of

No review of the anatomic variations resulting in a predisposition to torsion will be given The reader is referred to "Ptosis and Torsion of the Gallbladder" by Mecker and Lisenby[31] These authors present a complete and comprehensive survey of the subject with excellent illustrations In their opinion the actuating cause is a hyperperistalsis of the colon, but there is no experimental or clinical proof to substantiate this belief

The literature reveals that there have been only 2 cases of torsion associated with rupture of the gallbladder, although the duration of illness in some cases has extended up to six and eight days

The youngest patient with this condition reported was that of Blank,[46] a 17 year old youth, who was also one of the patients reported to have perforation

The oldest patient previously reported was that of Murray[33] He was an 83 year old man who survived the operation but died six weeks later of retention of urine and edema of the lungs

Our patient was also 83 years of age, a woman who is alive and well at the time of writing, two months after the operation

REPORT OF CASE

Mrs. J. B., an 83 year old white woman, was in good health until she was taken ill suddenly, immediately after noon lunch, with abdominal pain associated with vomiting. At first the pain was severe and more or less generalized, though more intense on the right side. The lunch was emesed. The vomitus consisted mostly of rather clear fluid, which seemed to contain bile. The pain remained constant, but was of lesser severity. It persisted until the time of operation. (The patient was first seen by one of us [C.W.H.] the day following the onset of the attack.)

Examination revealed a well developed, undernourished-looking elderly woman, lying in bed and not appearing acutely ill. The examination of the head, eyes, ears, nose, throat, heart and lungs revealed no abnormalities except a medium-sized nodular goiter. This was producing moderate pressure symptoms.

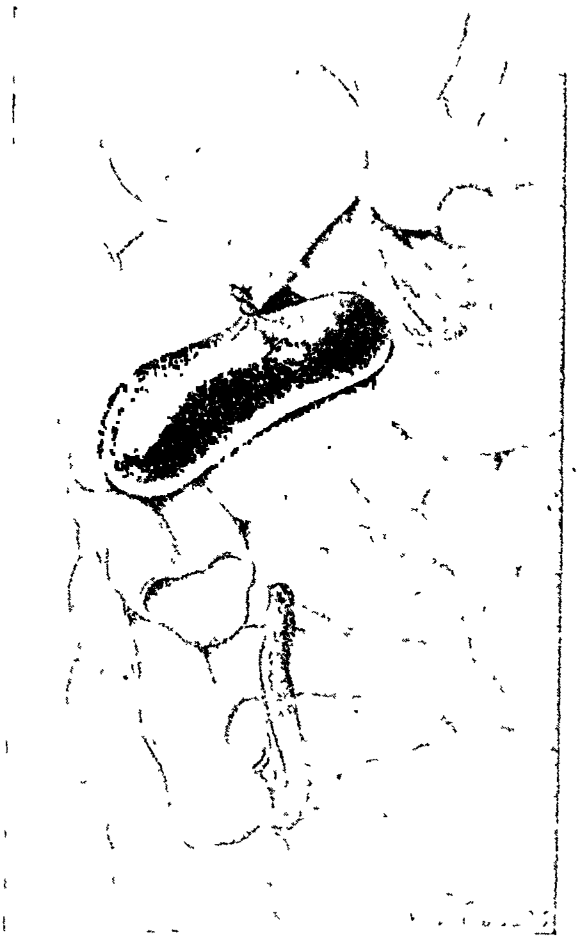
Abdominal examination revealed generalized tenderness across the upper portion and the entire right side. The tenderness was greater in the right lower quadrant, but the right upper quadrant was more rigid. There was dullness in the right upper quadrant; the remainder of the abdomen was normally tympanitic. The liver, kidneys and spleen were not palpable. Active peristalsis was present.

Vaginal and rectal examinations revealed nothing significant.

The patient's temperature was 99.4 F., her pulse rate 80, her respiratory rate 28, and her blood pressure 140/70.

The patient had been in fairly good health previously except for some pressure symptoms due to her adenomatous thyroid. She had been subject all her life to occasional mild attacks of indigestion, characterized by gaseous distention and belching. These attacks had no relation to food. She had never had an attack similar to the present one. She had not had any tarry or clay-colored stools, diarrhea or constipation. She had had an attack of painless jaundice of unknown cause fifty years before the present attack, but had never had gallbladder colic or appendicitis.

She had four children living and well. Her husband had died thirty-three years before (cause unknown). She had had her menstrual onset at the age of 14 years; the periods were regular, occurring at intervals of twenty-eight days and lasting five days. The menopause occurred when she was 53. There had been no subsequent bleeding.



Drawing showing the gallbladder in relation to other organs.

At operation (performed with the patient under spinal anesthesia induced with 120 mg. of procaine hydrochloride), via a transrectus incision, the appendix was found to be acutely inflamed. It was removed by the clamp and purse string method. Further exploration revealed a gangrenous organ in the upper part of the abdomen. On first glance this appeared to be a gangrenous loop of small bowel, but closer inspection revealed it to be a gangrenous gallbladder which was twisted from left to right two and one-half times on its pedicle

The gangrenous area extended all the way down to the common duct

A routine cholecystectomy was done, and a small portion of the gangrenous cystic duct was left, into which a soft rubber tube was sutured to drain the common duct

Recovery was uneventful except that there was fairly severe abdominal distention The pathologic report rendered by Dr. Lawrence Berman was "recurrent acute appendicitis and gangrenous gallbladder."

The report of this case adds to a growing list of recorded cases of torsion of the gallbladder and should aid in the establishment of a preoperative diagnosis.

SUMMARY

A case of torsion of the gallbladder is reported. The condition is a rarity, and the case in question is unusual because the patient had an associated acute appendicitis. Further, the patient is the oldest one reported on with this condition who survived the operation more than six weeks. The available literature has been reviewed, and a comprehensive bibliography is appended. Special mention is given to a study of the condition by Meeker and Lisenby.[31] If an elderly woman, previously well, suddenly becomes ill with acute abdominal pain, nausea and vomiting, possibly with consequent shock, and if examination shows tenderness of the right side and evidence of a tender mass in the right upper quadrant of the abdomen, the diagnosis of torsion of the gallbladder should be considered.

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RESÚMEN

Se hace relación de un caso de torción de la vesicula biliar, condición rarisima, y este caso es de especial interés, por que existía una apendicitis aguda asociada.

Además, este paciente es el de edad más avanzada de que se hace relación y que ha sobrevivido la operación más de seis semanas.

La literatura obtenible sobre este tema ha sido revisada y una bibliografía comprensible aquí se anexa. Mención especial se hace a los estudios de esta condición por Meeker y Lisenby. Si una mujer de edad con buenos antecedentes de salud se enferma violentamente con dolores abdominales agudos, nausea y vomitos y aún signos de choque y si el *examen físico demuestra sensibilidad en* el lado derecho del abdomen y en el cuadrante superior derecho y tumefacción localizada, el diagnóstica de torción de la vesicula biliar merece tomarse en consideración.

RÉSUMÉ

Un cas de torsion de la vésicule biliaire *est rapporté. Cette condition est une* rareté. Dans le notre cas, il y avait aussi une appendicite aigue. Notre malade survit plus de six semaines. La littérature du sujet est analysée, et une bibliographie compréhensive accompagne l'article. Mention spéciale est faite de l'étude de cette condition faite par Meeker et Lisenby. Si une femme agée en bonne santé soudainement devient malade, ressentant une douleur aigue abdominale, accompagnée de nausée, de vomissement, parfois accompagnée de choc, et présentant une masse douloureuse dans le quadrant droit supérieur de l'abdomen, le diagnostic de torsion de la vésicule biliaire doit être considéré.

СВОД

Доложен случай скручивания желчного пузыря. Это случается редко, и данный случай оказался необыкновенным, потому что он был осложнен острым апендецитом. Также, этот больной является самым старым в литературе, кто *жил более шести недель после операции.* Рассмотрена литература и дана библиография. Особенно упомянуто изучение этой болезни Meeker'ом и Lisenby[2]. Если до того здоровая пожилая женщина вдруг заболевает и развивает острую брюшную боль, тошноту и рвоты, и даже, возможно, шок, и, если исследование показывает болезненность с правой стороны и болезненную массу в правом верхнем квадранте живота, то нужно допустить возможность скручивания желчного пузыря.

FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

THIS IS YOUR COUNTRY TO HAVE AND TO HOLD
KEEP HER FOREVER SAFE AND STRONG
BUY MORE AND MORE WAR BONDS AND STAMPS

Role of the Second Toe in Bunionectomies

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LATERAL deviation of the first toe is a predominant feature in every hallux valgus. Beyond 15 degrees, any deviation may be considered anomalous. This outward flexion of the big toe may even reach 90 degrees by the digit's overlapping or underlying its neighboring second toe.

Whatever operative procedure is adopted for the correction of the displaced hallux in the course of a bunionectomy, there is always need for restoration of the toe to a relatively normal alignment with the rest of the digits, especially with the second toe. This restored alignment of the hallux will soon be disturbed if the second toe is so malformed that it invites the first to a recurrence of the deviation. The malformation of the second toe may be in the fashion of a hammer in the distal or the proximal phalangeal joint or in both. It may be a hyperextension of the toe in its metatarsophalangeal joint. Or the toe may be hammered and dorsally contracted as well. Whatever malposition of the second toe prevails, it always leaves a space for the first toe to fill by lateral bending in its metatarsophalangeal or its phalangeal joints. This interdigital space must be obliterated in order to prevent a recurrence of valgus of the first toe.

The filling of this empty space requires operative correction of the malformed second toe. If the latter is flexed in one or in both phalangeal joints, a wedge-shaped resection of the one or both articulations and a single or double arthrodesis are indicated and should be performed. If the second toe is hyperextended or is dorsally dislocated so that its proximal phalanx rests upon the head of the second metatarsal bone, a respective operation must be performed on the extensor tendon, on the dorsal capsule of the joint or on the head of the proximal phalanx or head of the metatarsal bone. The object should always be to align the second toe so that it will serve as a splinting agent for the corrected hallux valgus.

The operations on the second toe are chosen according to the indications inherent in the existing malformation. The extension or hyperextension must be overcome through section or elongation of the extensor tendon. With a mild contracture of the tendon a mere section of it may suffice to align the toe. With more severe contractures a tendon elongation is advisable. After the tenosection one must be able to flex the toe plantarly about 10 degrees. Now a plantar splint of narrow spring steel should be applied and the straightened toe held in mild flexion about four to six weeks. During this time the severed tendon will be reunited and sufficiently elongated. Passive flexion of all toes, including the one operated on, should be continued, in order to obviate a recurrence of tendon contractures.

Should the toe resist plantar flexion after severance of the tendon a dorsal capsulotomy of the metatarsophalangeal joint must be done and toe flexion attempted. Should both of these sec tions, tendon and capsule, fail to align the toe, a bone operation is necessary. It may be in the form of a resection of the proximal head of the phalanx or of the head of the second metatarsal. It is preferable to remove the phalangeal head, leaving the weight-bearing metatarsal head intact. However, this may be a matter of the surgeon's judgment in each individual case.

If bone resection has been considered at the outset of the operation, the tendon may be left unimpaired; its elongation is not called for, since there is a shorter distance to bridge after a bone operation has been performed.

Whatever operation has been done for the alignment of the second toe, the digit must be splinted in a slightly flexed position. The splint should be kept in position until tendon and capsule have reunited. If the splinting is omitted, as it frequently is, the fibrous tissue of the reunion eventually contracts, and a recurrence of the original deformity, in a graver form, ensues. Even if one chooses to insert a Kirschner wire after a resection of the phalangeal joint, the splint is still essential, because its purpose is to hold the toe corrected while the severed and elongated soft tissues are reuniting.

The details of the operations for hallux valgus and for the deformities of the second toe are here omitted, since the surgical procedures vary according to indications.

CONCLUSION

It is essential to correct the second toe if it is so deformed that it offers an interdigital space for the first toe to fill after the hallux valgus has been surgically overcome. It should be so aligned with the first toe that it serves it as a splint after the operation.

SUMARIO

Es necesario corregir el segundo dedo del pie si está tan deformado que ofrece un espacio interdigital al primer dedo para llenar despues de la corrección quirúrgical del hallux valgus.

El segundo dedo debe estar alineado con el primero para servir de tablilla después de la operación.

Las operaciónes del segundo dedo son de selección según, o de acuerdo con, las indicaciónes inherentes a la malformación que existe.

RÉSUMÉ

Après correction chirurgicale de l'hallux valgus, il est essentiel de remettre en place le second orteil s'il est déplacé ou deformé ou s'il crée un espace interdigitale permettant le déplacement du premier orteil. Le second orteil sera aligné avec le premier orteil de façon à former une éclisse après l'opération. On choisira l'opération indiquée par la malformation existante.

СВОД

Очень важно исправить второй палец ноги, если после хирургического исправления hallux valgus найдено, что второй палец так деформирован, что большой палец занимает его место. Второй палец должен быть уравнен с большим пальцем так, чтобы после операции он служил в роли шины. Хирургическое вмешательство над вторым пальцем решается на основании показаний заключающихся в существующей деформации.

Medical and Surgical Services (Military and Civil) in the Dominican Republic*

COL MANUEL A ROBIOU, M D, F I C S (HON)
TRUJILLO CITY, DOMINICAN REPUBLIC

IN THE Dominican Republic, thanks to the sedulous endeavors of His Excellency the President of the Republic, Generalissimo Dr. Rafael Leonidas Trujillo Molina, a transformation has been wrought in the field of public health and in the system of hospitals, both in affairs military and in affairs civil

MILITARY SERVICES

The Medical Corps of the National Army has set up proper standards both for times of peace and for times of war to ensure the maintenance of the health and well-being of our troops In our army we arrange to have a systematic examination made along general clinical lines of each and every one of our soldiers, including such procedures as a thoracic check-up and investigation of the blood groups for transfusion purposes, each soldier having in his identification book the record pertaining to the blood group to which he belongs. In addition to this, we practice vaccination against smallpox and against typhoid and serologic reaction for syphilis

In keeping with the system of organization established for our armed forces, we have hospitals and dispensaries distributed throughout the country, properly fitted out As a base hospital we have the Professor Marion Military Hospital, a personal endowment by His Excellency the President of the Republic, equipped in the most up to date manner with modern hospital appurtenances. It has a 200-bed capacity with the following services: Surgery, Orthopedics, Urology, Internal Medicine, X-Ray, Ophthalmology, Otorhinolaryngology, Odontology, Clinical and Biological Laboratory, Transfusion Department, Cardiology, etc, each one of these services being in the care of a specialized medical officer.

I must report furthermore that within the past two and a half years the following surgical work has been done:

Operations of skull	359
Operations of thorax	12
Operations of abdomen	634
Genito urinary operations	250
Operations of the extremities	39
Proctologic operations	22

We have a system of transportation that enables us to offer our soldiers a rapid transfer to the best prepared medico surgical centers in urgent cases.

As a hospital subsidiary we have the Military Hospital of the Northern Department, located in the city of Santiago de los Caballeros, with the same features as mentioned in the foregoing, although the bed capacity is smaller.

We also have other smaller-sized hospitals and dispensaries in the different provinces and sections, all looked after by medical officers, the endowment in each case being commensurate with the number of soldiers and the civil population.

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* Presented at the Fourth International Assembly of the International College of Surgeons, New York, June, 1943

We maintain a strict supervision of venereal diseases, and of syphilis in particular, by means of periodic inspections and prophylactic and curative measures. We thus attach to these diseases the importance they really have in the efficiency of the troops.

The Medical Corps of the Army renders wholehearted coöperation to the civil health authorities, in the maintenance of proper standards in regions smitten by tropical endemias. Furthermore the army in the far-off or out-of-the-way regions is in charge of the campaign carried on among the civil population for anti-typhoid and anti-diphtheria vaccination, etc.

CIVIL SERVICES

The care of the health of the civil population is in the keeping of the State Department of Health and Beneficence.

This department has divided the republic into sixteen sanitary districts; at the head of each there is a doctor upon whom devolves the task of enforcement of the law and of the provisions of the Sanitary Code, and upon whom furthermore it is incumbent to take the necessary measures in case of any epidemics or other serious emergencies.

This department arranges a campaign every year for vaccination and for the control as far as possible of endemic outbreaks peculiar to the tropical zone.

As to hospitalization, the department has seventeen hospitals, many of them specialized, such as the Ramfis Children's Hospital, with 125 beds; the Dr. Martos Sanatorium, with 200 beds; Nuestra Señora de las Mercedes (Our Lady of Mercy) Leper Hospital, with 120 beds, and then the Padre Billini Hospital, a general hospital of vital importance, with a capacity of 225 beds, located in Ciudad Trujillo, performing the office of Central Hospital. In San Pedro de Macorís the San Antonio Hospital, with the same capacity as the previous one, renders medico-surgical service to the eastern region of the country. For the southern region we have the Juan Pablo Pina Hospital, at the present time with a 100-bed capacity. In the northern region we have the San Rafael Hospital, with an 80-bed capacity.

The Dominican Red Cross has a splendid organization. It maintains a school for nurses and in connection with present war activities it has prepared first-aid courses.

The foregoing is a summarized statement of what we have available and it is a source of gratification for me to report that the state of health of my country is excellent and to add at this juncture that the Dominican Republic is not stinting in the contribution that it is making to the cause of the Democracies.

SUMMARY

A summary of military and surgical services of the Dominican Republic is presented. One base hospital, the Professor Marion Military Hospital, is equipped with complete surgical and allied laboratory services under specialized medical officers. The Military Hospital of the Northern Department, of fewer beds, and several smaller hospitals and dispensaries make readily available to the armed forces of the Republic the best of medical care. An excellent system of transportation to surgical centers, strict supervision of venereal diseases and close coöperation with civil services render the military and medical service effective. A State Department of Health and Beneficence, subdivided into sixteen sanitary districts with seventeen hospitals, many specialized, plus the efficient Dominican Red Cross, correlate to produce an excellent civil medical program.

SUMARIO

Un resumen o sumario de los servicios militares y quirurgicos de la República Dominicana es presentado Un hospital basal, "El Profesor Marion Hospital Militar," está equipado completamente para el servicio de cirugia y de laboratorios accesorios bajo la dirección de especialistas médico militares

El Hospital Militar del Departamento del Norte, con menos camas, y varios otros mas pequeños hospitales y dispensarios suplen ampliamente todas las necesidades del mayor servicio médico a las fuerzas armadas de la republica

Existe un excelente servicio de transporte a los centros de cirugia y muy estricta supervigilancia contra las enfermedades venereas, e intima cooperacion con los servicios medico civiles asegura un resultado eficaz y eficiente

El Departamento de Salud y de Beneficiencia de Estado, subdividido en dieciseis distritos de sanidad, con diecisiete hospitales, varios de ellos especiales, mas aun la eficiente Cruz Roja Dominicana, contribuyen a un excelente programa medico civil

RESUME

L'auteur nous decrit les services medico chirurgicaux de la Republique Dominicaine Le principal hôpital, le Professor Marion Military Hospital, a un service de laboratoires militaires et chirurgicaux complet Ce service est sous la direction de spécialistes L'hôpital militaire du departement du nord a moins de lits D'autres hôpitaux et dispensaires completent et assurent aux forces armées de la Republique un traitement adéquat et scientifique Il existe en outre un excellent système de transportation desservant les centres chirurgicaux Il y a une stricté supervision des maladies vénériennes On note une coopération tres serrée des services medicaux civiles et militaires Cette coopération permet d'obtenir des resultats heureux Le Departement de la Sante et de la Bienfaisance de l'Etat est divise en seize districts sanitaires renfermant dix sept hôpitaux dont plusieurs sont specialisés Une excellente Croix Rouge Dominicaine contribue à l'efficacite du corps médical

СВОД

Здесь дан краткий обзор военно хирургических функций Доминиканской Республики Одна лазаретная база, Военный Госпиталь имени Профессора Мариона, оборудована полным хирургическим и соответственным лабораторным составом, находящимся под руководством военных медицинских специалистов Немного меньший Военный Госпиталь Северного Департамента, а также несколько небольших госпиталей и амбулаторий снабжают военные силы республики самой лучшей медицинской помощью Великолепная система транспортации к хирургическим центрам, строгое наблюдение над венерическими болезнями и тесное сотрудничество гражданских медицинских центров очень содействуют полной успешности военно хирургическо медицинских служб Государственный Департамент Здоровья и Помощи, имеющий семнадцать больниц, из которых многие специализированы, и очень хорошая организация Доминиканского Красного Креста способствуют осуществлению великолепной гражданской здравоохранительной программы

IN MEMORIAM

HENRY HOUSTON OGILVIE, F.A.C.S., F.I.C.S.

Henry H. Ogilvie (1885–1944)

Henry H. Ogilvie was born in 1885 in Melissa, Texas. He attended Baylor University and received his medical training at the University of Texas, in 1910. His internship was served at Santa Rosa Hospital, San Antonio, Texas.

In World War I Dr. Ogilvie served as a captain in the Medical Corps at Base Hospital 79, AEF. During the present war he was cited by the Office of Civilian Defense in Washington for his service while chairman of the local emergency hospital corps in San Antonio, Texas.

He was a co-founder of the Medical and Surgical Memorial Hospital, San Antonio, Texas, and later served on the staffs of several hospitals in San Antonio.

Dr. Ogilvie's society affiliations include membership in the Bexar County Medical Society, the Texas State Medical Association, the American Medical Association, the International Postgraduate Medical Assembly of Southwest Texas, the American College of Surgeons and the International College of Surgeons. In 1932 he was the winner of the Case Records Award of the American College of Surgeons. He became a Fellow of the International College of Surgeons in 1941. In 1943 he was made Regent of District 16, and at the Ninth Annual Assembly of the United States Chapter, in October 1944, he was elected Third Vice-President of the Chapter, in which capacity he served the College loyally.

Dr. Ogilvie was known as a surgeon of high ideals and of great technical skill and thoroughness. It was with sorrow that we learned of his death, on June 15, 1944, at the age of 60, in New Orleans.

MARTIN I. GREEN, M.D., F.A.C.S., F.I.C.S.

Dr. Martin I. Green, of San Francisco, Calif., died on June 30, 1945, after an illness of a few months.

Dr. Green was born in 1899 in Cleveland, Ohio. He received the degree of Doctor of Medicine in 1921 from the College of Physicians and Surgeons, San Francisco. After postgraduate work in ophthalmology in European Universities, he received training in cataract surgery in India. In 1928 he became associated with his uncles, Dr. Louis D.

(Continued on page 367)

Editorials

Cancer of the Uterus

Its Prevention and Treatment

MANY problems have been made to seem complicated by a wrong analysis.

If all the gynecologic conditions should be placed together, their gravity and tragedy would not equal those of malignant tumors, and the malignant tumors of the uterus take first rank in their challenge to the medical profession for better thinking and action.

Today's treatment of cancer of the uterus reminds one of the Reverend Conwell's "Acres of Diamonds" in the back yard. Surgeons chase the stars for the ultimate remedy, when there is an almost infallible means of prevention in 95 per cent of cases.

There is no location of malignant growth, in male or female, where cause and effect are so apparent as in the cervix uteri, abuse of which is frequently followed by cancer. The truth of this is not denied by any experienced gynecologist who is free to express an opinion. Further, there is no other location where a predisposing cause of malignant growth can be prevented so uniformly.

If the foregoing statements are correct, why has the medical profession been so derelict in prophylactic teaching in regard to cancer of the uterus. Compare the volumes of literature on the treatment of this condition which fill medical journals with the amount on its prevention.

Is it possible that teaching positions of members of our profession have a tendency to cramp or intimidate their endorsement of well known facts of life-saving importance? Must teachers stay in the column of accepted thoughts when better advice is within their reach? If we are to deal in *fashion* of thought or action, let us practice it on some lesion which Christian Science will cure.

It is impossible for me to reconcile my views stablized by forty-five years in gynecology with today's teaching concerning cancer of the uterus. I have made the statement in literature elsewhere that the greatest therapeutic anachronism I know is that seen in the endorsed views of the medical profession on dealing with the cancerous uterus.

Why do I make such a statement? It is my experience that in 95 per cent of the cases cancer of the cervix uteri has followed injury or some pathologic abuse of the cervix. This percentage is too high to be dismissed as a coincidence and should stamp out some of the lethargy of indifference in views concerning the abused cervix and its relation to malignant growth.

In regard to the percentages of malignant tumors of the uterus in different sites, no two physicians are likely to have the same experience; hence it is best to report as nearly as possible one's own experience.

I have found the cervix to be first in

frequency of involvement, the fundus second and the region of the internal os third. In regard to fatal location, I place the region of the internal os first, the cervix next and the fundus last. Determinations of fatality depend on several factors. On account of its accessible location, cancer of the cervix is more early diagnosed than a malignant growth near the internal os. Further, a malignant growth near the internal os is in a location rich in absorbents, lymphatics and blood vessels, and metastasis takes place earlier than with cervical or fundal cancer. Malignant growths of the fundus appear ten years later (an element of favor), and the fundus of the uterus is less rich in lymphatic absorbents.

Cancer of the cervix can in practically all cases be prevented by surgical or other treatment. Dr. B. Z. Cashman, of Pittsburgh, Pa., has reported that of 10,000 patients who had been treated for a cervical lesion by cautery, cancer developed later in only 2.

In sixty-five years' experience in the Joseph Price Hospital, Philadelphia, Pa., neither the late Joseph Price nor I have observed the development of a malignant neoplasm following any of our repairs of the cervix. What more forceful message could there be in regard to the prevention of this large percentage of malignant lesions of the cervix.

The remedy of repair of the offending cervix has practically no mortality and is not only prophylactic against uterine cancer but a therapeutic remedy of broad application.

If it is possible to prevent cancer of the cervix, which constitutes the majority (in my experience 95 per cent) of uterine cancer, one need be concerned only with the small number of cases in which the malignant growth involves the fundus or the supercervical portion of the uterus.

I am at a loss to know just why repair of the cervix today is a lost art. It is an operation of great importance and far reaching in its blessings to the patient with a precancerous lesion. I would suggest to surgeons that they discard all kinds of absorbable suture material in the repair of the servix.

I have discussed and illustrated all these points in a monograph.

Uterine cancer, furthermore, can be most uniformly recognized at the stage of involvement when extirpation of the organ will give more brilliant results than are experienced in any other location.

There is no other location in the human body where cancer so often involves a useless organ. Again, there is no major operation in all surgery which is followed by such a splendid postoperative history as total extirpation of the uterus, nor is there one which has so low a death rate. These factors have priceless values to the surgical profession. Why have the members of that profession so uniformly rejected them?

It is impossible to discuss the treatment of uterine cancer without reviewing the relative values as they affect prevention, diagnosis, pathology and treatment. In fighting a Kansas prairie fire, one first determines which way the wind blows. In about 95 per cent of cases of uterine cancer the wind blows from the cervix, and there must begin the back fire of prevention.

For a surgeon to say that he would not do a curettage biopsy of the uterus if he were at all suspicious of the presence of malignant growth in the fundus would be to condemn himself as unscientific and certainly unfashionable.

I have discussed at length in other publications the percentage of failures of biopsy for either cervical or fundal cancer and the possible dangers of biopsy I have called attention to the fact that if the proportion of such failures in diagnosis is greater than 1 per cent or a fraction thereof, one is not justified in making such investigations, as the sterile uterus can be removed in a vaginal hysterectomy with a mortality of 1 per cent or less and is followed by a brilliant postoperative history I never treat uterine cancer (confined to the organ) but always remove the organ

I feel that surgeons have not given sufficient attention to the frailties and uncertainties of means of diagnosis as compared with the value of the organ involved and the price (mortality and morbidity) of its removal One would be infinitely more generous as to the possible errors of any means of diagnosis in dealing with a valuable organ or one with a high mortality involved in its removal than one would be in the case of a useless organ, such as the sterile uterus, removal of which is followed by almost no mortality

The members of the surgical profession have ignored these precepts, the verity of which cannot be refuted, and this has taken from them the strongest post on which successful treatment of uterine cancer leans Such cancer in many cases is merciful in its patience with tardy recognition and treatment, it has been my experience that extension and metastasis come only after prolonged neglect in a good percentage of cases

In this paper I am not discussing extrauterine malignant growths If surgeons exercised their surgical privileges, extrauterine cancer would be robbed of 90 odd per cent of its terrors, as extension of the malignant growth to abdominal lymph nodes is in an overwhelming percentage of cases due to poor surgical teaching and action, the patient does consult the physician

It has been my experience in a life's work that if general prophylactic and preventive measures are exercised, plus early exercise of the surgeon's therapeutic privileges, and if the errors in diagnosis are not many times in excess of the value of the sterile uterus, one should have living at the end of ten years 96 to 97 per cent of patients instead of 15 or 20 per cent

During the past generation, the almost total abandonment of surgical treatment of the cancerous uterus is the most flagrant example of a therapeutic anachronism of which I have any knowledge, the teaching has been a distressing and reprehensible example of following false gods The ultrascientific means of investigating the pathologic uterus have placed unworthy values on this indwelling organ where malignant tumor cells are too often lurking

It should be remembered, without questioning the value of the excellent laboratories manned by some of the best men in the medical profession, that superlative degrees of dependence should not be placed on ultrarefinements in histopathologic technic, and that this is especially so when one is dealing with a sterile organ which can be removed with such matchless results

In my attempts to call attention to the uncertainty of biopsy, I have been accused of being a laboratory nihilist This is untrue in every sense I have not condemned biopsy per se in the recognition of malignant growths of the uterus, but I have weighed the value of the sterile organ against possible errors in any means of diagnosis and have discussed the same under the head of "relative values"

As I have before stated, biopsy would

have to give correct results in 99 per cent of cases to compete with the prophylactic effect of complete extirpation of the organ. The surgeon had better remove 50 sterile uteri than to permit 1 cancerous organ to go unrecognized.

In the removal of several thousand uteri, my associates and I have asked each patient a number of times, as she returns for follow up examinations, whether she ever regretted the removal of the uterus; with pleasing emphasis, the answer has been "no" in every case.

My *summation of the problem of cancer* of the uterus is as follows:

A great majority (in my experience 95 per cent) of the malignant growths of the uterus involve the cervix, and practically all such tumors can be prevented by proper treatment. Therefore, such prophylactic work robs the lesion of most of its fangs.

In practically all cases of cancer of the uterus the organ is sterile, and an overwhelming percentage of the patients have borne children and lend themselves to easy and timely vaginal hysterectomy.

There is no male or female organ of useless function which is so often involved by cancer as is the sterile uterus and which can be removed with such brilliant results. If the penalty (mortality and morbidity) of hysterectomy were high and the uterus a fertile organ or one of useful function, then the penalty of uncertain methods of diagnosis could be condoned with charitable views toward late treatment followed by dire results. This is just another statement of relative values. It is my opinion, derived from experience, that 95 to 97 per cent of the present mortality from cancer of the uterus is due to human errors. It is poor sportsmanship to attribute any considerable percentage of the deaths to the patients' neglect.

Throughout a life of gynecologic experience, I can recall only about a dozen women who died of cancer of the uterus who had not consulted a physician months or years before but had had no treatment advised.

The surgeon who has not had actual experience with the clamp method of vaginal hysterectomy is in no position to criticize hysterectomy as the treatment of uterine cancer. There is no fair comparison between the ligature and the clamp method of removing the uterus, as far as ablation of periuterine structures is concerned. The slough incident to the crush of the clamp plus the slough incident to the unsutured circular incision in the vaginal fornix involved in the operation are factors of the greatest importance in dealing with the cancerous uterus.

Sixty-five years ago the late Joseph Price told the medical profession that repair of the cervix prevented later development of malignant tumors of the uterus and that early vaginal hysterectomy by the clamp method, preceded by cauterization, was the means of preventing malignant growth.

Is it possible that all these years we have been fiddling while Rome burned?

James W. Kennedy, M.D., F.A.C.S.

A "Student Dollar"

We are in an age of conflict between nationalistic and internationalistic ideas and ideals, especially in political and economic fields The evils caused by exaggerated and perverted nationalism have been recognized, and everywhere there are signs of efforts to bring about cooperation between countries and to create systems of international relations based on a realization of the interdependence of different parts of the world The desires of national and other groups for supremacy and advantage of their own are still strong, however, and political and economic pressure groups are still active

The members of the surgical profession in the United States of America must demonstrate by thought and action that we do not foster nor represent what our South American neighbors rightly speak of as American class consciousness The medical profession in the United States has never been guilty of discrimination in service rendered as far as race or creed goes Therefore we are in an excellent position to cultivate friendship and scientific intercourse not only with our South American neighbors but with the world at large

The arts and sciences, perhaps because they are not so closely linked with man's desires for physical and financial security, have always shown internationalism Medicine, in all its branches, is so universally important that it transcends national boundaries Except during the artificial conditions produced by war, and even then to some extent, discoveries that advance the art of healing have been shared with physicians all over the world Seldom has any consideration of monetary gain motivated such exchange of experience

As has been pointed out in recent issues of the *Journal,* the need for international cooperation among surgeons and other scientists will be especially important in the next few years because of the great tasks of reconstruction and education that lie ahead of us Moreover, the countries which are now in more fortunate circumstances must share their educational and research facilities with students from other countries, in order to increase as soon as possible the number of trained workers available This sentiment is expressed constantly by other groups and in other periodicals

In these cooperative scientific efforts, however, there are financial difficulties, arising from the differences in economic status and standards of different nations and from the complications of international monetary exchange Some of these differences are of long standing, others have been created by the wartime conditions of recent years

In some countries which have been severely ravaged by war, supplies of books and scientific equipment are almost exhausted, and it is difficult for either individual students or institutions to purchase the needed replacements, especially since foreign textbooks that are needed frequently cost much more than the average books printed in these countries In other countries, even though conditions are more nearly normal, the cost of imported textbooks is almost prohibitive A recent article in *Science*[*] points out that in South

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[*] Dunham George C Role of Tropical Medicine in International Relations Science *102* 105 (Aug 3) 1945

America "French text-books are generally used, largely because the United States text-books are too expensive. The tuition at a number of the schools is only about thirty dollars a year. Text-books that sell for five dollars in this country [the United States] sell for ten or twelve in the southern republics. . . . Text-books can not now be obtained from Europe, and those available were published before 1939."

Young men and women who wish to *study in other countries frequently find* themselves seriously handicapped either by actual lack of funds or by the fact that their money is worth less than it was at home, because of the rate of exchange or because of a difference in cost of tuition, books and the necessities of living.

Universities and medical schools and research institutions can help to solve these problems to some extent through scholarships. Internationally minded individuals, like the members of the International College of Surgeons, can help by opening the doors of their hospitals and sharing their skill with young people from other countries. Individuals and groups can help to supply textbooks as gifts or at cost.

Since the problem is a universal one, however, and one which will eventually affect the welfare of all peoples of the world, would it not be a good idea for the governments of the countries that are in a position to cooperate in this way to create a "student dollar" or perhaps, better, a "student rate of exchange," which would enable qualified students from other countries to secure *more purchasing power for their* money? This would in no way need to *interfere with plans of individual* countries for financial aid to their own young men and women whose education has been interrupted by military service. On the contrary, it would probably tend to broaden and enrich the education of these young people, through giving them greater contacts and creating an international sharing of experiences.

Could not members of the International College of Surgeons and other interested persons endeavor to influence their governments to make some provision for such a "student dollar?"

ROLAND KLEMME, M.D.,
F.A.C.S., F.I.C.S.

NEW BOOKS

Rafferty's Artificial Pneumothorax in Pulmonary Tuberculosis[1] shows much thought and study The volume is divided into three parts (1) "General Considerations", (2) "Selection of Cases," and (3) "Management" The basic concepts of the management of early tuberculosis are described and a plea made for universal standardization of rules and technic in the administration of pneumothorax Since collapse therapy within the past decade has largely revolutionized the treatment of tuberculosis, a knowledge of all phases of collapse therapy is essential, and this the author has properly emphasized Both ambulatory and sanatorium types of pneumothorax are discussed and evaluated Supplementing Dr Rafferty's own extensive observation of institutional and private cases is a bibliography of 195 references

The book is particularly timely because it is anticipated that a marked increase in the incidence of tuberculosis will follow the war The reviewer heartily concurs in the wide spread movement of carrying some form of ambulatory collapse therapy to patients in remotely located rural areas Rural physicians with some basic training and a working knowledge of pneumothorax apparatus and technic can do an inestimable amount of good and curative therapy for patients with early tuberculosis where sanatorium facilities are not available

A valuable addition would be a chapter showing two or more accepted and simple types of apparatus, with a thorough discussion of indication, contraindication and technic of administration, to be used as a guide by the rural physician as well as by the beginner in collapse therapy

The author is to be congratulated on his thorough study and erudite presentation of artificial pneumothorax

The authors and publisher of the companion volumes **Fertility in Men** and **Fertility in Women**[2] are to be congratulated on having produced a most commendable presentation of the subject of human fertility Sponsored by the **National Committee of Maternal Health,** these volumes may be said to represent the best and most advanced thought of the day on the reciprocal problems of sterility and fertility

In both volumes emphasis is rightfully placed on the bisexual character of fertilization, a fact which seems to have been unrecognized in medical literature and practice until recent years The volumes are freely illustrated, easily readable and well documented

In Fertility in Men the semen and its sperm content constitute the major interest, which is natural There is also a useful section on the many commercial hormonal products with their confusing multiplicity of trade names It is of interest to note that the author of this volume (Hotchkiss) confirms the general authoritative opinion that there is no effective hormonal treatment for advanced degeneration of spermatic tissue, that definite improvement can be expected in a few cases, that the responses are variable and cannot be predicted from case to case, that there is no single hormone which can be regarded as a "reliable specific" for spermatogenesis

The clinician who wishes to be prepared for the treatment of impaired fertility will do well to make himself thoroughly familiar with these volumes

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[1] Artificial Pneumothorax T N Rafferty Grune & Stratton, New York, 1944 Price $4 00

Fertility in Men A Clinical Study of the Causes, Diagnosis and Treatment of Impaired Fertility in Men Robert Sherman Hotchkiss With a Foreword by Nicholson J Eastman, Chairman, Editorial Committee, National Committee of Maternal Health J B Lippincott Co, Philadelphia, 1944 Price $3 50 Fertility in Women Causes, Diagnosis and Treatment of Impaired Fertility Samuel L Siegler J B Lippincott Co, Philadelphia, 1944 Price $4 50

The love of Jews for the practice of medicine is traditional, and their considerable accomplishments in this field have been pointed out by many medical historians. **Harry Fridenwald** is an authority on medical history and medical bibliography, and his recent book, **The Jews and Medicine,**[3] is an outstanding contribution to the history of medicine in general and to the history of Hebrew medicine in particular.

The book covers thoroughly the history of Jewish physicians, as well as the contributions of the Jews to medical science. Thirty-eight of the forty-two essays were previously published by the author during the past thirty years in various medicohistorical journals and Jewish periodicals; some of these have been considerably revised and enlarged.

Various topics touched upon include: the practice of the healing art among the Jews; the relationship of Jews and of Judaism to medicine; the role of Jewish physicians in the early universities; biographic sketches of prominent medieval Jewish physicians; history of some Jewish physicians of Spain, Portugal, Italy and France; Jewish physicians of the sixteenth century; the ethics and practice of medicine from the Jewish point of view, and other subjects of historical interest.

The book is provided with an introduction by Dr. Henry E. Sigerist and a comprehensive bibliography. It is a welcome addition to historical literature.

The English edition (1944) of **Spiegel and Sommer's Neurology of the Eye, Ear, Nose and Throat**[4] is a reference work which should find its way to the shelves of everybody whose interests extend beyond the minimum of therapeutic knowledge. The authors have enlarged upon their German treatise of 1931; not only have they brought it up to date, but it is completely rewritten so as to cover the subject comprehensively. Neurology is generally considered a complex subject, and little time is given to its study in selecting graduate instruction. This book may help to overcome an old aversion. The borderlines between ophthalmology, otolaryngology and neurology are discussed scientifically and practically. Eye, ear, nose and throat are described anatomically, physiologically and pathologically insofar as they relate to the central and peripheral nervous system. An extensive bibliography, consisting of over 1,700 references to the international literature, makes this a valued addition to the diagnostic and therapeutic armamentarium of the practitioner in the field and the research man in the laboratory.

Louis Sigler's extremely useful text **The Electrocardiogram**[5] will prove a delight to both student and practitioner. The volume of 391 pages is well written, and its simplicity of discussion and the excellence of the 203 plates which illustrate the text make it an unusual instrument of learning in electrocardiography. The author has stated his conclusions concisely and clearly. He has avoided including the moot questions which are still a part of the present phase of electrocardiography, but he has not dismissed them entirely without consideration, as may be seen by the inclusive bibliography which follows every chapter. The plates containing pictures of tracings are made up of composites of many graphs and are well explained by legends. The problem of multiple fourth leads is discussed in the last chapter, but this topic is presented only through a statistical study made by the author, and does not leave the reader with any actual concept of the procedure; the field of multiple precordial leads is still in its experimental stage, and the recent literature must be consulted on the points of issue. The unipolar limb leads are merely mentioned in passing: here too recent literature must be consulted to acquaint oneself with the progression of experimental work Considering the text as a whole, it is a definite contribution to medical science and will serve to simplify the study of electrocardiography for those who avail themselves of it

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[3] The Jews and Medicine. Essays by Harry Friedenwald. The Johns Hopkins Press, Baltimore, 1944. Price $7.50.

[4] Neurology of the Eye, Ear, Nose and Throat. E. Spiegel and I. Sommer. Grune & Stratton, New York, 1944. Price $7.50.

[5] The Electrocardiogram. Louis H. Sigler. Grune & Stratton, New York, 1944. Price $7.50.

We are happy to greet a concise and informative volume, written by an experienced industrial ophthalmologist, which deals with industrial compensation as applied to ophthalmology, setting forth the duties and obligations of industry to the employee, as well as definite information, advice and instructions to the physician interested in these problems This is **Kuhn's Industrial Ophthalmology**[6]

Visual job analysis and testing technics aid the ophthalmologist in placing the right employee in the right job Proper installation of safety measures and educational campaigns for managers and employees supplement the work of the ophthalmologist

The chapter on "Industrial Eye Injuries Caused by Solid Bodies," written by Dr Snell, presents thoroughly though briefly the importance, care and treatment of these types of injuries Programs for prevention of ocular accidents and various medicolegal considerations are clearly presented Recent developments in industrial ophthalmic problems arising from welding radiation, illumination, general physical health of employees and the advantages of employment of the blind are thoroughly covered

The appendix contains a glossary of toxic hazards to the eyes, a program applicable to industry for the eyes of employees and a significant study of "Appraisal of Loss of Visual Efficiency"

Comprehensive bibliographic references will induce the reader to do further extensive study A thorough index aids one to select quickly the varied material of this worth while book

Miriam Bredow's Handbook for the Medical Secretary, a handy reference guide for secretaries already employed and for students who plan to be technicians or medical stenographers, fills a long felt need The personality of the stenographer and such aspects of office routine as handling of appointments, patients, patients' records, accounts and correspondence, as well as a discussion of office procedures participated in by the stenographer, are capably treated An introduction to the doctor's activities, medical, medicolegal and literary, with a chapter on the preparation of manuscripts, rounds out the work Perhaps the most valuable chapter is that on medical terminology, divided for convenience according to the medical specialties The book is recommended as a valuable addition to the office library of any physician or surgeon

Physicians are no exception to the axiomatic statement that no one is immune to law suits The number of physicians sued for malpractice in the last twenty years has constantly increased The opportunities open to a disgruntled patient to bring action against a physician are practically unlimited, and for this reason it is of vital importance that he be acquainted with the laws of various states

Louis J Regan's book on **Medical Malpractice**[8] covers every phase of the subject Each section consists of a brief discussion of the problems plus extracts from the decisions in malpractice suits In addition, it sets forth some of the varying or contrary decisions in regard to particular points of law

Chapter I defines "malpractice" The physician's failure to meet standards of practice in his community are pointed out In chapter V the author differentiates between profit and nonprofit organizations as to their respective liability for malpractice It is brought out in chapter VI, on the "Expert Witness," that a general practitioner may be qualified to testify in certain cases, even if he has never been specially trained in the subject under consideration. Chapter XV, dealing with the surgeon, enumerates twenty-five various conditions for which malpractice may be claimed.

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[6] Industrial Ophthalmology Hedwig S Kuhn C V Mosby Co, St Louis 1944

[7] Handbook for the Medical Secretary Miriam Bredow McGraw Hill Book Co, Inc, New York 1943

[8] Medical Malpractice Louis J Regan C V Mosby Co St Louis, 1943

This book is timely. It is well illustrated with case reports. A copy should be in the library of every practicing physician.

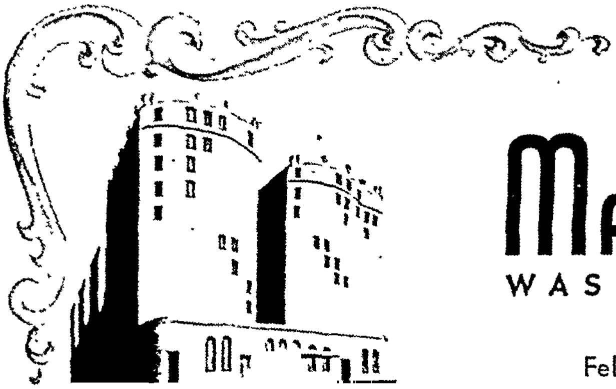
MARTIN J. GREEN

(Continued from page 357)

Green and Dr. Aaron S. Green, and with them he founded the Greens' Eye Hospital. Since the death of his uncles he had been chief of staff and head of that institution.

He was a member of many medical societies, including the American Medical Association, the American College of Surgeons, the International College of Surgeons, the American-Soviet Medical Society, the Pan-American Medical Association and the Pan-American Congress of Ophthalmology.

Ophthalmology was to Dr. Green an ideal as well as a profession. He held the belief that in many cases social delinquency and social handicaps are due directly to defective vision. In addition to his work in cataract surgery, he is perhaps best known for his contribution to the technic of corneal transplantation. He restored vision to many patients. His death at the early age of 46 is a loss to ophthalmology.



C. J. MACK
General Manager

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The
MAYFLOWER
WASHINGTON, D. C.
cordially welcomes
Fellows, Members and Guests
of the
INTERNATIONAL
COLLEGE OF SURGEONS
at its
TENTH ANNUAL ASSEMBLY
December 6–7–8
1945

LA "Revista del Colegio Internacional de Cirujanos" *(The Journal of the International College of Surgeons)* es una publicación bimestral que constituye el órgano oficial del referido Colegio (fundado en Ginebra, Suiza, en 1935). En esta revista se publican artículos originales de investigación, observación clínica y trabajo experimental sobre temas quirúrgicos. Sirve, además, como vehículo para dar a conocer las actividades del Colegio Internacional de Cirujanos a sus miembros y a todos aquellos que se interesen por los adelantos e innovaciones de índole quirúrgica en el mundo entero

Los Capítulos Latino-americanos del Colegio Internacional de Cirujanos tienen en ésta revista el medio oficial en que se recogen sus actividades. Actualmente la revista se halla enriquecida por una Sección especial en español en la que se publican no sólo trabajos científicos originales de cirujanos de Hispano-América sino tambien noticias referentes a los miembros y Capítulos de los paises de habla española, así como una información general en relación con la cirugía. A todos aquellos profesionales, cirujanos y médicos, que se interesen por los temas quirúrgicos habrá de serles de gran utilidad el subscribirse a ésta publicación.

Envíese por coreo este cupón al

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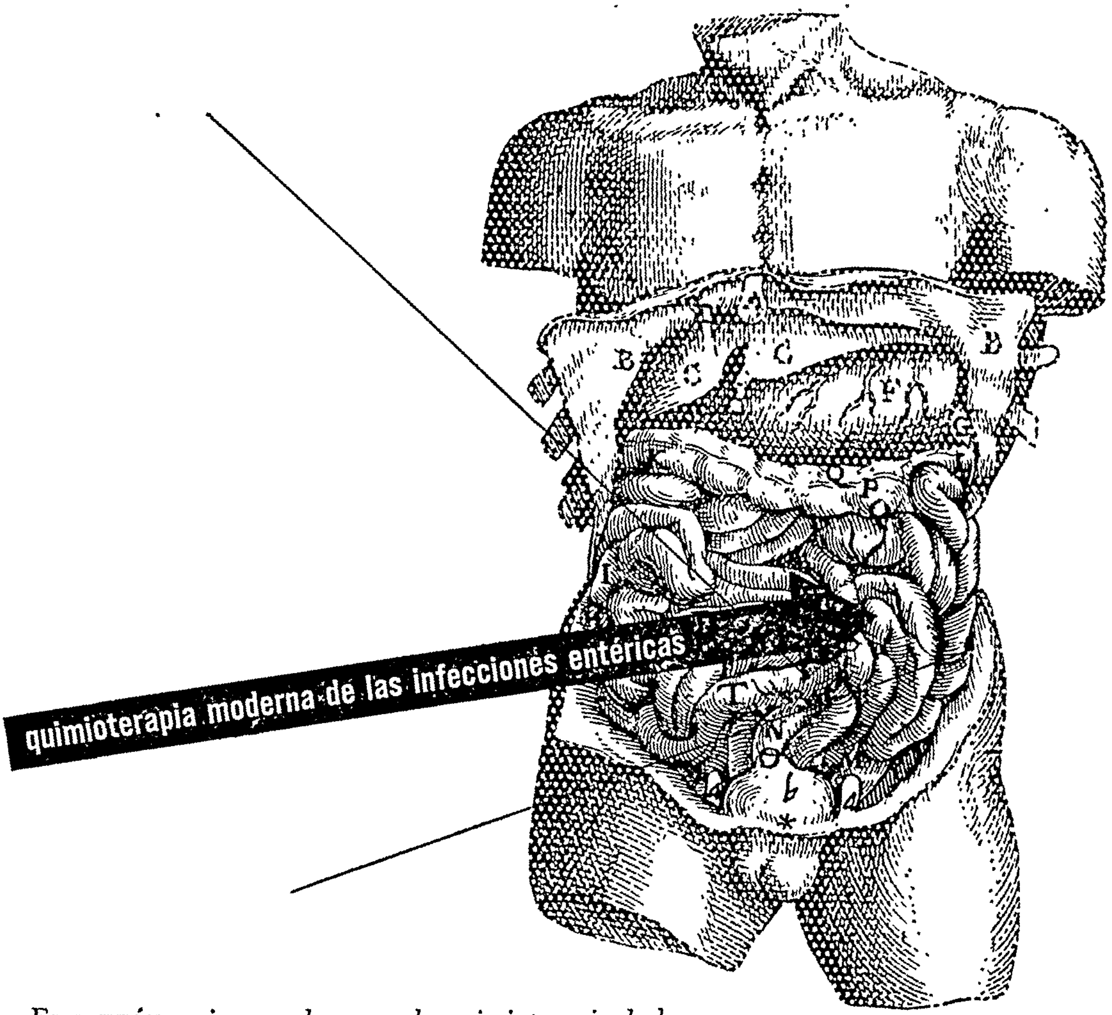

Es opinión casi general que en la quimioterapia de las infecciones entéricas la "SULFASUXIDINA" no tiene rival. Este nuevo compuesto descubierto y sintetizado en los laboratorios de Sharp & Dohme, ejerce poderosa acción bacteriostática y bactericida contra los bacilos gram negativos y actúa sólo en la luz intestinal. La droga es escasamente absorbida por el torrente sanguíneo y las reacciones tóxicas son sumamente raras.

La "SULFASUXIDINA" es más eficaz que los antiguos derivados sulfonamídicos de acción intestinal, y da excelentes resultados en la quimioterapia de las infecciones entéricas: disentería bacilar, (Shiga, Flexner, Sonne) enterocolitis, colitis ulcerante, y se emplea con éxito como profiláctico pre y postoperatorio en cirugía colónica.

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"SULFASUXIDINA" *Succinilsulfatiazol* Sharp & Dohme

Sección en Español

Asistencia Hospitalaria

MANUEL A. MANZANILLA, M D., F.I.C S. (Hon.)
Mexico, D F, México

ANTIGUAS CIVILIZACIONES

El origen de los refugios o asilos para enfermos debe considerarse, desde el punto de vista histórico, como un fenómo inherente al determinismo de la vida social. En efecto, prescindiendo de cualquiera afirmación teórica, la existencia de dichos asilos o refugios con anterioridad al Cristianismo es un hecho perfectamente demostrado, a pesar de su carácter esporádico y aun cuando su concepción ética haya sido distinta de aquella de las instituciones fundadas y extendidas dentro de la religión de Cristo.

En la crónica cingalesa "Mahawamsa," se tiene noticia de que Pandutalkabhayo, rey de Ceilán, erigió un hospital allá por el año 437 A.C. El rey Dutthagamini, lejano sucesor del acabado de mencionar, decía antes de morir, en el año 137 A.C., lo siguiente: "En diez y ocho diversos lugares he mantenido hospitales, provistos de los elementos necesarios, de medicinas y personal idóneo para la cura de los enfermos." En la India, además de los hospitales para seres humanos, funcionaban también hospitales destinados a los animales.

En Egipto, en los templos de Isis y Serapis, lo mismo que en Grecia y Roma, en los santuarios de Asclepíades o Esculapio, existían locales muy vastos, y bien arreglados en ocasiones, destinados a ayudar enfermos que esperaban encontrar alivio por medio de sueños y señales recibidas mientras dormian. En algunos de éstos templos griegos y romanos, se disponía de palestras destinadas a revigorizar a los enfermos crónicos o convalecientes, por la gimnasia, los baños y las fricciones. En el santuario de Epidauro, habían aposentos separados para las parturientes y los moribundos. De estos santuarios dedicados a Asclepíades o Esculapio se formaron, al correr del tiempo, verdaderas escuelas de medicina.

En Grecia, hasta el siglo VI A.C., los médicos encargados de la atención gratuita de los enfermos disponían en la propia habitación de una estancia, el iatreo (iatreion), destinada a las consultas y operaciones, y en su caso al restablecimiento temporal de los pacientes. En ocasiones, los iatreos más frecuentados, como el del Pireo, funcionaban también como escuelas clínicas. En Roma, la imitación del iatreo fué denominada medicina; las grandes familias romanas contaban en sus propiedades rurales con la valetudinaria, que era una enfermería destinada a la atención médica de los esclavos enfermos; las legiones romanas disponían de enfermerías constituídas por un corredor construído al rededor de un patio central.

Los anales árabes citan la obra de los secuaces del Islam en la creación de establecimientos hospitalarios. En el año 707, el califa Al-W[illegible] In[illegible]ó en el Cairo un hospi[illegible] [illegible]or médicos, al que aseguró rentas apropiadas; además, ordenó el aislamiento de los leprosos y proveyó ocuparse de la suerte de los ciegos. En el siglo IX y en la propia ciudad egipcia, cerca de la gran mezquita, existía un hospital con secciones diferentes para hombres y mujeres, y una poliambulancia abierta los días festivos. Por último, a fines del siglo XIII y asimismo en el Cairo, fué edificado el célebre hospital de Al-Mansur, provisto de locales separados para febricitantes, heridos, enfermos de la vista, convalecientes, con servicios médico y farmacéutico y cátedra anexa para la enseñanza.

ORIGENES CRISTIANOS

La asistencia a los enfermos pobres constituye para el Cristianismo el ejercicio de la virtud capital del Evangelio: la caridad, el amor al prójimo. La identificación ideal del enfermo pobre con la persona misma de Jesús es el principio animador del grandioso movimiento histórico, que traduce el sublime fervor de la sociedad cristiana, empeñada en las obras de asistencia, con especialidad la hospitalaria.

Inútil sería buscar en época anterior a la paz constantina ejemplos de asilos a refugios en las diversas comunidades cristianas, no obstante la ya extensa difusión del pío ejercicio de la beneficencia. La iglesia católica, apostólica y romana, en las reuniones litúrgicas instituye en caridad la limosna, para socorrer a los enfermos y los pobres. El principio de la hospitalidad ha progresado tanto en los albores de la nueva civilización, que se afirma con la erección de asilos adecuados, llamados xenodocios en Oriente y hospitales en Occidente, denominaciones cuya etimología expresa en ambas el alojamiento para extraños, para huéspedes. Su difusión procede dentro de límites fijos: los obispados, las diaconías, los monasterios, las casas de personajes acaudalados. Durante muchos años, en tanto el progreso de la vida civil no alcanzó facilidad en las communicaciones y prosperidad en la industria hotelera, dichos establecimientos atendieron simultáneamente a viandates, peregrinos y enfermos, cumpliendo con el precepto de las obras de misericordia.

El Oriente sobrepasó al Occidente en la expansión de las obras de asistencia, como resultado de la más rápida extensión del Cristianismo en aquellas tierras. Medio siglo después del edicto de tolerancia, la actividad cristiana asistencial se había propagado en forma tan notable que se cita el caso del sacerdote pagano Arsace, quien en carta escrita el año 362 aconsejó como óptimo expediente en la lucha contra los cristianos, imitar la austeridad de sus costumbres y su benevolencia hacia peregrinos y enfermos, y ordenó para ello la fundación de xenodocios para beneficiar sin distinción religiosa a los necesitados.

En el año 534, ya el Código Justiniano hace mención del adelanto existente en la separación de las diversas clases de socorro, aun cuando persistía la promiscuidad en la asistencia de las obras pías. Una información del siglo XII da cuenta del desarrollo alcanzado, en aquel entonces, por el servicio médico en la organización hospitalaria. En efecto, el emperador bizantino Juan y su consorte Irene fundan en 1136 en Constantinopla un hospital o xenodocio de 50 camas, dividido en cinco secciones, a saber: una quirúrgica, dos para enfermos comunes, una para enfermos graves y una para mujeres. Cada sección contaba con dos médicos, enfermeros y sirvientes, sujetos a turnos regulares y supeditados a dos médicos directores; anexo al hospital se disponía de un servicio para consulta, con dos cirujanos y dos médicos, y ademas una sala de 24 camas para enfermos cronicos y otra especial para monjes enfermos, el servicio de farmacia estaba atendido por un farmaceutico jefe y cinco subordinados, el hospital tenia una estancia para baños En fin, casi todos los monasterios y residencias episcopales, tanto en Oriente como en Occidente, tenian alojamientos para peregrinos

CONCEPTO ASISTENCIAL

El ejercicio de la caridad, virtud capital del Evangelio, fundada en el amor al projimo, integra socialmente el concepto y ejercicio de beneficencia La beneficencia tiende pues a satisfacer una necesidad de aliviar el sufrimiento, de mejorar las condiciones de ciertos individuos, inspirandose exclusivamente en un principio etico religioso, que impone el deber de la solidaridad humana, el amor a los propios semejantes y la limosna a los pobres Primitivamente, la virtud de hacer el bien al projimo se confundio indistintamente con el concepto de ayudar al projimo, usandose largo tiempo como terminos sinonimos beneficencia y asistencia Ha sido hasta recientemente, en los tiempos modernos, cuando precisandose el concepto filosofico, bajo la influencia de las ideas y la accion de las condiciones economicas y sociales, que se ha llegado a establecer una acepcion clara en el concepto y definicion actuales no obstante que un conjunto de particulares concepciones de orden social y economico lo han hecho dificil de entender o precisar en algunos paises

La asistencia a pesar de la impropia designacion que Malthus y su escuela le han dado de caridad legal, debe considerarse filosoficamente como una funcion publica y social, que la comunidad desarrolla por conducto del estado, con fines de reparacion social y sin reconocimiento de factores sentimentales o religiosos para su realizacion, cumpliendo en esta forma con un deber cuyo principio es la provisión y cuyo objetivo es la utilidad general A pesar de todo, la obligacion de asistencia es en algunos paises todavia un concepto teorico, una obligacion moral, un deber puramente administrativo, pues los indigentes no poseen un derecho al socorro, basandose la accion en consideraciones sentimentales y no en el concepto de reparacion social obligatoria del estado Asimismo, en otros paises se considera a la asistencia como la resultante de un conjunto de elementos espirituales, a saber el sentimiento religioso, el humanitario, el piadoso y el de solidaridad, los que se estiman como esenciales para la vida civil

Al producirse el progreso cientifico e instaurarse el metodo experimental, los hospitales no pudieron substraerse a la orbita del trascendente movimiento y entonces, a la mision original de la caridad cristiana hubo de agregarse la finalidad del estudio y de la investigacion Al acontecer esta reforma en la orientación hospitalaria, la enseñanza teorica universitaria se completa con la observación clinica en los hospitales, que a partir del siglo XVII adquieren en las grandes ciudades características de verdaderas escuelas de medicina, cirugia y farmacia, entonces, el acercamiento de los estudiantes al lecho del enfermo, en ocasiones como enfermeros, determina fecundos resultados que conducen a la institución de las clinicas universitarias

En el siglo XIX la tecnica nosocomial progreso de modo particular, en virtud del poderoso incremento que las ciencias biologicas reciben en la segunda mitad de la centuria Se procede nosologicamente a la selección de los enfer integrando salas o departamentos hospitalarios distintos, convertidos a veces en verdaderos hospitales para determinada especialidad. Al propio tiempo, se adoptan los nuevos medios de investigación diagnóstica y de terapéutica, y de este modo las instituciones hospitalarias, dependientes o conectadas en su mayor parte con las universidades, para el estudio y la investigación sistemática, se perfeccionan científicamente en su aspecto técnico.

A continuación, bajo la influencia de las ideas predominantes y la acción de las condiciones económicas y sociales, las instituciones hospitalarias limitadas en su origen al funcionamiento en caridad, dan paso a la intervención del estado y, al transformarse progresivamente su primordial directriz filosófica, tiene lugar la conversión de la beneficencia en asistencia en los países de tendencia laica, y especialmente en aquellos de estructura política basada en el laicismo. De esta manera, al perfeccionamiento científico ya expuesto en su aspecto técnico, se suma el perfeccionamiento técnico en su aspecto social, integrándose desde luego la unidad fisonómica asistencial que es norma en el funcionamiento consuetudinario y en la misión sistemática del hospital moderno.

EDIFICIOS Y FUNCIONAMIENTO

Los xenodocios ordinarios, los hospitales medievales, sin características particulares y de proporciones reducidas, fueron substituídos en el Renacimiento por las grandes aulas nosocomiales, los edificios monumentales, las espléndidas concepciones artísticas. La magnificencia de estas nuevas fábricas, sus proporciones grandiosas, su valor artístico, contrastaron con sus deficientes condiciones higiénicas y sanitarias, agravadas entonces por su ubicación inusitada en el corazón de las ciudades.

A la concentración de enfermos en los grandes edificios de tipo unitario, sucede el pensamiento de construir en pabellones o edificios separados, vistos los resultados satisfactorios obtenidos en la improvisación de barracas hospitales, durante la guerra de Crimea (1855–1856) y en la norteamericana de sucesión (1860–1865). Sin embargo, no tarda en aparecer en los Estados Unidos de América un nuevo tipo de edificio único, de varios pisos, con estancias para uno o varios enfermos, que tiende al abandono de los pabellones aislados, y da margen a discusiones, meditaciones y estudios, orientados a fijar desde luego lineamientos técnicos para las construcciones hospitalarias modernas, tanto desde el punto de vista de las relaciones recíprocas en el manejo de los grandes y los pequeños hospitales, cuanto de aquel referente al tránsito, dimensión de los edificios y disposición de los mismos. En la actualidad se acepta que en las construcciones y funcionamiento hospitalarios deben regir determinados lineamientos fundamentales, que mencionaremos sucintamente.

Los límites de la región que debe ser atendida por un hospital completo cualquiera se determinan por la distancia que el enfermo pueda recorrer en treinta minutos como máximo. El hospital completo, considerado como centro sanitario de su región, debe comprender todos los servicios de diagnóstico y tratamiento, en estrecha conexión con los centros de investigación de los dispensarios, los de cuidados preventivos y los servicios sociales para enfermos. Determinados enfermos (tuberculosos, crónicos, incurables, convalecientes) deben instalarse en establecimientos especiales, pudiéndose destinar dentro de lo posible un hospital completo para determinados grupos de enfermedades.

El sistema mejor y más económico de un hospital completo parece ser actualmente la construcción vertical en bloque, de varios pisos, con corredor intermedio. La adopción del sistema de edificio principal con anexos (sistema de trabazones) o de edificio central con varias alas (sistema del peine), depende no solamente de la importancia del número de camas, sinó aun de la situación urbana y de la extensión del terreno disponible. El número de camas depende de la progresión aritmética que rige la agrupación de los servicios unitarios, progresión que todavía no está definitivamente precisada.

La organización técnica de los grandes y de los pequeños centros hospitalarios debe orientarse hacia la cooperación, por razones de economía sistemática en los servicios sanitarios y hospitalarios. La mejor colaboración depende de la situación hospitalaria dentro de la red de comunicaciones de la región sanitaria respectiva y de la eficacia de estas comunicaciones, requiriéndose la estrecha cooperación del servicio de tránsito.

Los servicios de un hospital pequeño pueden concretarse a una sección médica y otra quirúrgica, equipo de rayos X y servicios generales, debiéndose encontrar en condiciones de prestar atención urgente, garantizar el tratamiento de los pacientes externos y el servicio social de los enfermos. En el hospital pequeño, el uso de cuartos por diversas secciones en épocas diferentes permite economizar espacio y reducir gastos, empleando desde luego instalaciones especiales, desplazables y móviles.

La construcción moderna relacionada con la función del hospital realiza un perfeccionamiento arquitectónico de aspecto trascendente, que se suma a todo lo expuesto, dando por resultado la creación del instrumento apropiado, base necesaria para el vuelo de la obra científica, la bondad del esfuerzo técnico y el empeño de la acción social, en marcha hacia la progresiva consecución de la mejor y más grande realidad de asistencia hospitalaria.

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SUMMARY

It is pointed out that the establishment of asylums for invalids should be considered from the historical point of view as an essential factor in the evolution of social life. Such institutions existed even before the Christian era; they were scattered, however, and their conception was different from that of the Christian institutions.

Hospital assistance had its origin in Christianity, being established originally in the practice of charity, of love of one's neighbor, the outstanding virtue of the Gospel. The progress of this magnificent historical movement led to the establishment of suitable asylums, called "xenodocios" in the Orient and hospitals in the Occident.

On the basis that the practice of charity integrates socially the concept and practice of beneficence, originally the terms "beneficence" and "assistance" were used synonymously the

concept of doing good to one's neighbor being united with that of aiding him. Through a process of evolution there has developed the present concept of "assistance." As a consequence of this change in philosophical direction, the Christian work of hospital beneficence has been converted in various countries into hospital assistance, an obligatory social service of the state.

Characteristic demands were made on hospitals for scientific progress and establishment of the experimental method. This led to perfection of the technical aspects of the hospital, with the idea that a hospital organized as a center of study and investigation would acquire to a certain extent the characteristics of a university. Hence there has been a tendency for hospitals to function in dependence on or in close contact with universities, completing in a practical way the theoretic teaching of the universities and becoming centers for study and investigation for the sake of scientific progress and of improvement of the social service of hospital assistance.

The important steps in the evolution of the structure and function of hospitals are cited, in order to show as clearly and concisely as possible the fundamental principles which should govern the organization and work of modern hospitals with a view to progress toward the best possible hospital assistance.

RÉSUMÉ

Un facteur essential dans l'historique de l'évolution de la vie sociale est la fondation d'asiles pour les invalides. De tels institutions existaient dans l'antiquité, avant l'ère chrétienne, mais elles étaient peu nombreuses et très éparses.

L'assistance hospitalière est d'origine chrétienne, ayant sa conception initiale dans la pratique de la charité, dans l'amour du prochain, le grand vertu qu'enseigné l'Évangile.

La pratique de la charité renferme la conception et la pratique de la bienfaisance. Bienfaisance et assistance sont deux termes employés comme synonymes. C'est l'idée de bonté à l'égard du voisin unie à celle de l'aider. La conception actuelle d'assistance a été dans certains pays convertie en assistance hospitaliére, en service sociale obligatoire de l'état.

Les hôpitaux contribuent au progrès scientifique et à la vulgarisation des méthodes expérimentales. Cela a entraîné des perfectionnements techniques et a converté beaucoup d'hôpitaux en centres d'étude et de recherches.

Il y a une grande tendance à unir intimement les hôpitaux aux universités, afin de compléter par un entraînement pratique l'enseignement théorique des écoles.

Les étapes importantes dans l'évolution de la structure et de la fonction des hôpitaux sont décrites afin de pouvoir formuler les principes fondamentaux qui doivent gouverner l'organization et le fonctionnement des hôpitaux et aussi afin d'obtenir le progrès maximum dans les méthodes et les principes de l'assistance hospitalière.

СВОД

Указано, что с исторической точки зрения учреждение домов для инвалидов должно считаться существенным фактором в общественной эволюции. Такие учреждения существовали еще в древности до христианской эры; но они были изолированы и разбросаны, и их возникновение отличалось от зачатия христианских учреждений.

Больничная помощь берет свое начало в христианстве, являясь первоначальным применением милосердия и любви к соседу, двух выдающихся евангельских добродетелей. Прогресс этого великолепного исторического движения привел к

учреждению подходящих убежищ, на востоке называемых «ксенодоциос», а на западе «госпиталь»

Так как практика милосердия включает общественный принцип и практическое применение благодеяния, то первоначально термины «помощь» и «благодеяние» были синонимами, идея добра к соседу будучи связана с идеей помощи ему В курсе эволюционного процесса развилась теперешняя идея «помощи» В результате этой перемены в философском направлении христианская работа госпитального благодеяния превратилась в разных странах в госпитальную помощь, являющейся обязательной государственной функцией

Теперь, *определенные* условия, содействующие научному прогрессу и установлению экспериментальной методы, начали требоваться от госпиталей Это повело к техническому усовершенствованию с той целью, чтобы госпиталь, организованный как центр научного исследования, приобрел характерные особенности университета Отсюда развилась тенденция больниц функционировать в тесной связи с университетами, таким образом дополняя практически теоретическое университетское обучение и превращаясь в центры изучения и исследования ради научного прогресса и улучшения общественной функции госпитальной помощи

Для того, чтобы показать насколько возможно и точно основные принципы, регулирующие организацию и работу модерного госпиталя, имеющего своей целью развитие наилучшей госпитальной помощи, даны наиболее важные ступени в структурной и функциональной эволюции госпиталя

IN MEMORIAM

EL DR ERNESTO NAVARRE, F I C S *
(Bolivia)

La clase médica en general y la Asociación Médica Boliviana y la Facultad de Medicina en particular, fueron ruda y dolorosamente conmovidas con el fallecimiento del Dr Ernesto Navarre El fatal suceso ocurrió cuando el Dr Navarre presidía la sesión en que la A M B iba a elegir la nueva mesa directiva

El Dr Navarre nació en La Paz, el 8 de noviembre de 1890 Hizo sus estudios universitarios en esta misma ciudad, habiendo concurrido al 3er Congreso de Estudiantes Sud-Americanos reunido en Lima el año 1912 Estuvo tres años en París ampliando sus estudios de Medicina Vuelto al país, ingresó al Hospital General como médico interno Fué luego médico de sala y director del Hospital En 1932 concurrió a la compaña del Chaco, donde permaneció 14 meses Estuvo en las acciones del 7 al 10 de noviembre de 1932 en el "Kilómetro 7" y en el combate de Nanagua en enero de 1933

En la Faculta de Medicina fué catedrático de Patología Externa y últimamente de Historia de la Medicina además, distinguiéndose siempre por su brillante desempeño Era decano de la Facultad y vice rector de la Universidad, regente del Capítulo Boliviano de Le College International de Chirurgiens y Presidente de la Asociación Médica Boliviana

Sus funerales constituyeron una honda manifestacion de pesar y un sincero reconocimiento de sus muchos méritos

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* Obituario reproducido de la *Gaceta Medico Quirúrgica de Bolivia*

En las manos del cirujano está la vida del paciente

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Breves Datos Historicos de Algunos de los Hospitales Mas Antiguos de las Americas

ANTONIO MOLINA, M. D.
NUEVA YORK, N. Y., ESTADOS UNIDOS
Director de la revista "América Clínica"

LOS historiadores discrepan acerca de la existencia de hospitales en la América precolombina. Según algunos, entre ellos Presco, los aztecas tenían hospitales en México. No obstante, lo más probable es que los pueblos indígenas de América no conocieron esta clase de instituciones hasta que llegaron los conquistadores. Mejor dicho, el hospital en el Hemisferio Occidental fué obra de los españoles, que a este respecto se adelantaron en México más de un siglo, a los Estados Unidos y al Canadá.

Carlos V y Felipe II de España promulgaron leyes que obligaban a construir un hospital de enformos no contagiosos, anejo a la iglesia, y otro de infecciosos, en el extrarradio de la población. El Dr. Carlos Martínez Durán, profesor de la Universidad de San Carlos, de Guatemala, al comentar la labor de los españoles en América dice lo siguiente: "Toda la medicina moderna de la América Española es oriunda del hospital. . . . La fundación de hospitales por conquistadores y misioneros, es una de tantas pruebas para conocer y affirmar el contenido espiritual de la conquista española. Es la fuerza espiritual de la conquista, lo universal de sus alcances, lo que mueve a guerreros y frailes, y por ello mismo, lo que sale de España es la flor de la península. Los hospitales coloniales han asistido por cerca de cuatro siglos a todos los progresos de la medicina." La administración de los hospitales en la América española fué obra exclusiva de dos órdenes religiosas: la Orden de los Hermanos Hospitalarios de San Juan de Dios, fundada en España por el portugües Juan de Dios, y la Orden Hospitalaria de Religiosos de Nuestra Señora de Belén, fundada en Guatemala por *Pedro de Bethencourt y por Fray Rodrigo* de la Cruz, en el siglo XVII.

Los primeros hospitales del Nuevo Mundo se construyeron durante el siglo XVI. Actualmente gran parte de ellos han desaparecido; otros sólo muestran sus ruinas, pero muchos de estos hospitales aun perduran a través de los siglos. De estos últimos, el más antiguo de todos y el de mayor importancia es el Hospital de Jesús, de la ciudad de México, que presta servicios, sin interrupción, desde hace más de cuatrocientos años. Sin embargo, aunque la gran mayoría de los historiadores consideran que el Hospital de Jesús es el primero que se fundó en el continente americano, hay autores que opinan que el primer hospital de América fué el Hospital de San Nicolás de Bari, fundado por Fray Nicolás de Ovando en el año 1502 en la isla La Hispaniola (Santo Domingo). Hoy sus ruinas son mudo testigo de su pasado.

El Hospital de Jesús fué fundado por el conquistador Hernán Cortés en el año de 1524 (1527 ?). Primitivamente se llamó Hospital de la Purísimo Concepción y se construyó en el mismo lugar donde el Emperador Montezuma se encontró por vez primera con Hernán Cortés. Los planos del edificio fueron obra del arquitecto español Pedro de Vázquez. Ulteriormente, en 1532, se le denominó Hospital de Jesús Nazareno. Al *primitivo edificio* se *han ido* agregando nuevas construcciones, hasta completar lo que actualmente constituye "la manzana del Hospital de Jesús." Todo este conglomerado conserva los diversos estilos que prevalecieron en las diferentes épocas en que se construyeron los edificios anejos; pero tanto el primitivo edificio de amplios patios y bellas arquerías, como las construcciones adyacentes y el templo cuya torre está coronada por la estatua de piedra del Conquistador, todo es expresión del más puro estilo colonial. No obstante, el hospital tiene todos los adelantos de la técnica moderna.

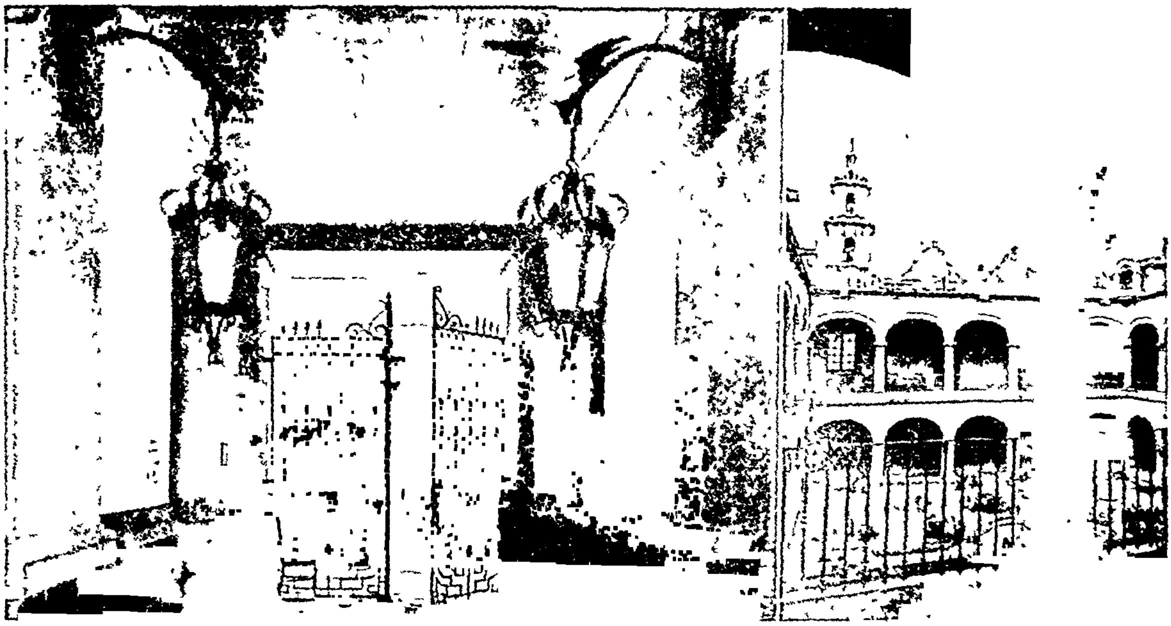

Fig. 1. Hospital de Jesús. Entrada principal del antiguo edificio (a la izquierda), y parte antigua del hospital (a la derecha).

El tercer hospital de América fué el Hospital de la Misericordia, fundado en Guatemala por Jorge de Alvarado, en 1527. Fué destruído pocos años después. En México se inauguró en 1532 otro hospital en Patzcuaro; en la actualidad todavía presta servicios con el nombre de Hospital de Santa Marta. En 1535 se construyó en la ciudad de México el primer hospital de infecciosos.

El Conquistador del Perú Francisco Pizarro fundó el primer hospital, en Lima, en 1538.

En Brasil, el portugués Braz Cubas fundó el primer hospital, en Santos en año 1543, dándole el nombre de Santa Casa de Misericordia de Santos.

La institución hospitalaria más antigua que hoy día existe en Brasil es el Hospital de la Misericordia. En 1582, o sea ochenta y dos años después que el Almirante portugués Pedro Alvares Cabral descubrió las tierras del Brasil, arribó a sus playas una escuadra compuesta de 17 barcos y 3,000 hombres, al mando del Capitán Baldez, después de sufrir las penalidades de una larga y dura navegación. Los miembros de la tripulación, heridos y enfermos, fueron asistidos por el padre Anchieta, de la Compañía de Jesús. Así se inició este hospital, al cual más tarde se le denominó Hospital de Nossa Senhora da Misericordia. Hasta 1840 el Hospital de la Misericordia fué una enfermería privada. Desde entonces ha sido varias veces restaurado y ampliado; en la actualidad esta institución es un hospital privado que consta de 31 salas y más de 900 camas. Durante el año 1943 fueron tratados 8,512 enfermos y un total de 123,754 pacientes de consulta externa. Dos años atrás se creó en el Hospital un gran laboratorio para la preparación de productos de uso parenteral; este laboratorio llegó a fabricar en un año 441,776 ampollas. También existe un magnífico Instituto de Fisioterapia y un espléndido equipo de radium. El Hospital de la Misericordia cuenta asímismo con un centro de enseñanza de post-graduados.

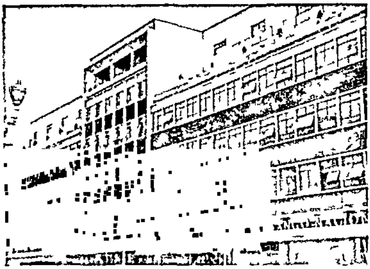

Fig 2 Fachada del nuevo sanatorio (inaugurado recientemente). Anexo perteneciente al Hospital de Jesús.

En Norteamérica, los primeros hospitales se construyeron en el siglo XVIII. Como puede suponerse, las condiciones higiénicas de los hospitales de equella época dejaban mucho que desear. Las salas de cirugía estaban condenadas casi irremisiblemente a la infección. Sobre todo había cuatro terribles dolencias que por su persistencia en estos centros se les llamaba "enfermedades de hospital." Estas eran la erisipela, piohemia, septicemias y gangrenas. Las estadísticas de los hospitales eran aterradoras; el índice de mortalidad en las amputaciones ero el cuádruple de el registrado en la práctica privada. Las heridas en aquella era pre antiséptica raramente cicatrizaban por primera intención. En estos hospitales del siglo XVIII los enfermos estaban materialmente apiñados, no siendo raro que cada cama alojara a dos enfermos.

Lister y Pasteur iniciaron una nueva era llena de esperanzas, que lógicamente repercutió en la organización de los hospitales. Lister fué el primero que hacia el año 1865 aplicó las teorias de Pasteur en el quirófano de un hospital, obteniendo un inmediato descenso del índice de mortalidad. Una vez demostrado que las enfermedades contagiosas no se transmitían por el aire sino por microorganismos transportados por las deyecciones, ropas, etc., y por contacto directo de los enfermos, se abandonó el tipo de hospital por pabellones, costoso e ineficiente. El mejor ejemplo de este tipo de construcción en los Estados Unidos es el hospital Johns Hopkins de Baltimore.

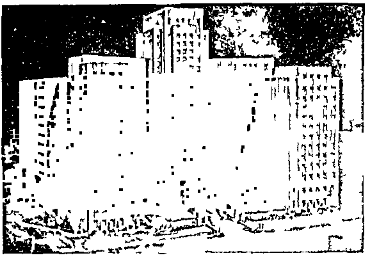

Fig 3 El actual Charity Hospital de Louisiana en Nuevo Orleans

El Charity Hospital de Louisiana en Nueva Orleans es uno de los primitivos hospitales de Norteamérica que, después de sufrir múltiples vicisitudes, presta actualmente espléndidos servicios. Fué fundado por un marinero francés llamado Jean Louis, el cual al morir en 1736 legó su modesta fortuna con el fin de construir un hospital. El original Charity Hospital tenía una capacidad de 24 camas y funció con el nombre "L'Hopital des Pauvres de la Charité" durante cuarenta años, hasta que fué asolado por el ciclón que devastó la población en 1779.

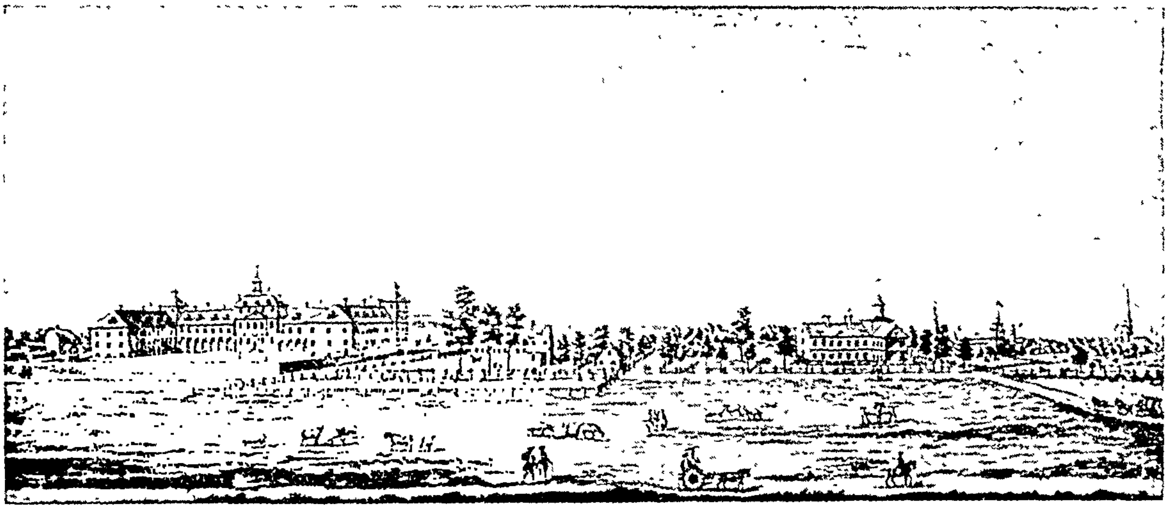

Fig. 4. Reproducción del grabado más antiguo que se conoce del Pennsylvania Hospital, que data de 1750–1760. El edificio grande que se ve a la izquierda es el Asilo Municipal; el otro, más pequeño, de la derecha, en forma de T, es el primitivo Pennsylvania Hospital.

Durante la época de la dominación española en Louisiana, un acaudalado aristocrata, Don Andres de Almonaster y Rojas, Coronel de Milicia, Regidor y Alférez Real, y Caballero de San Carlos, hizo la generosa oferta de 114,000 dólares destinada a reconstruir el antiguo hospital de Jean Louis. En 1782, el Rey Carlos III de España concedió autorización para iniciar las obras. El nuevo hospital se inauguró en 1784, con el nombre de Hospital de San Carlos. De nuevo el Hospital fué reducido a cenizas, en la gran conflagración que sufrió la ciudad en 1809; pero fué reconstruído en 1815. La ubicación del actual Charity Hospital, una de las mejores instituciones hospitalarias de los Estados Unidos, data de 1838. Hoy cuenta el hospital con un total de 2,701 camas.

Otro de los hospitales de Norteamérica que goza de gran prestigio es el Pennsylvania Hospital, de Filadelfia, que generalmente está considerado hoy como el hospital más antiguo de los Estados Unidos. Cuenta con ciento noventa y cuatro años de servicios prestados a la humanidad. La idea de construir el Pennsylvania Hospital se debe al Dr. Thomas Bond, notable clínico y cirujano américano del siglo XVIII, el primero que en América practicó la litotomía (1756) y tambien el primero que dió conferencias clínicas (1786). Afortunadamente el Dr. Thomas Bond consiguió que su proyecto obtuviese rápidamente el generoso apoyo y la cooperación de un hombre de la grandeza de espíritu de Benjamín Franklin. A éste se debe en gran parte la erección del magnífico Pennsylvania Hospital, provisto de todos los adelantos técnicos de la época. Este hospital se fundó en 1751, creándose una Junta Directiva de doce miembros, entre los cuales se incluía a Benjamín Franklin y al Dr. Thomas Bond.

La primera descripción histórica del Pennsylvania Hospital la escribió el propio Franklin en 1754. El edificio fué proyectado y construído con un bello estilo colonial, por Samuel Rhoads, un aficionado a la arquitectura, que formaba parte de la Junta Directiva. El nuevo edificio del hospital fué inaugurado en 1755.

Entre los medicos eminentes que desfilaron por las salas del Pennsylvania Hospital debemos citar los siguientes: Benjamin Rush, el único médico que firmó la Declaración de Independencia; John Morgan, Director General del Departamento Médico del Ejército Continental; Philip Syng Physick, el primero que practicó el lavado de estómago contra los envenenamientos, usó la ligadura de catgut y extirpó las amígdalas con amigdalotomo; Caspar Wistar, gran anatómico; William Shippen Jr., organizador, con Morgan, del Departamento Médico de la Universidad de Pennsylvania; John C. Otto, el primero que publicó información sobre casos de hemofilia; William Wood Gerhard, el primero que hizo el diagnóstico diferencial entre la fiebre tifoidea y el tifus exantemático, y George B. Wood, fundador y director de la "Farmacopea de los Estados Unidos" y del "National Dispensatory."

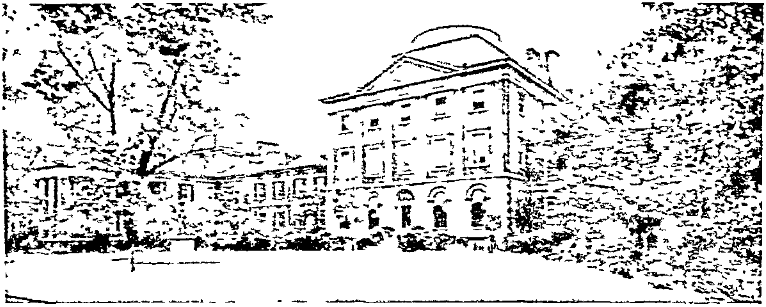

Fig. 5 Actual Pennsylvania Hospital, edificio que fué inaugurado en 1755

La primera piedra que se colocó en la construcción del Pennsylvania Hospital ostenta la siguiente inscripción:

En el año MDCCLV de la era cristiana
durante el reinado feliz de Jorge II
(porque él procuró la felicidad de su pueblo)
Filadelfia prosperó
(porque sus habitantes tuvieron espíritu de asistencia pública)
Este edificio
Fué fundado piadosamente
Gracias a la subvención del Gobierno
Y a la munificencia privada.
Para el socorro de enfermos e indigentes.
Que Dios misericordioso
Bendiga esta empresa

La segunda institución hospitalaria que se creó en este país, y que actualmente figura como el hospital más antiguo de Nueva York y el segundo en orden cronológico de los Estados Unidos, es el New York Hospital, hoy motivo de legítimo orgullo de los neoyorquinos. Con antelación al New York Hospital existía en la ciudad de Nueva York, en 1736, un Hospicio Público y Correccional, ubicado donde h[illegible] encuentra el City Hall (Municipalidad) y en el cual se prestaba asistencia facultativa a los enfermos indigentes. Por lo tanto, está justificado considerar que este establecimiento, aunque no era propiamente un hospital en el sentido moderno que le damos a este vocable, fué el comienzo de los servicios hospitalarios municipales de la actual gran urbe, pues, como afirma Henry E. Sigerist, "No se puede negar que en este viejo hospicio el municipio facilitaba asistencia médica gratuita a algunos enfermos pobres." De esta primitiva enfermería surgió más adelante el Bellevue Hospital, en 1811.

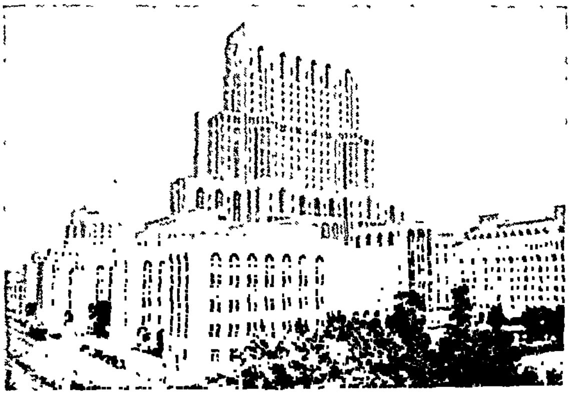

Fig. 6. Grupo de edificios del actual New York Hospital, construído en 1932.

El Dr. Samuel Bard fué el primero que en 1769 puso de manifiesto la necesidad de construir un hospital general en la ciudad Nueva York, para "asistencia y socorro de enfermos y como el mejor medio de enseñanza para estudiantes de la práctica médica." Esta iniciativa fué afortunada, y en 1771 el Rey Jorge III de Inglaterra estatuyó The Society of the New York Hospital. Recién inaugurado, el edificio fué destruído por el fuego en 1775, pero se le restauró poco tiempo después. En 1776, año de la Guerra de la Independencia americana, el New York Hospital admitió los primeros pacientes, que por una ironía del destino eran soldados del Ejército Revolucionario Americano. La admisión de enfermos civiles comenzó en 1791. Hasta el presente el New York Hospital ha estado prestando servicios ininterrumpidos durante ciento sesenta y tres años, abarcando así toda la series de conflictos bélicos de la nación (la guerra con México en 1846, la guerra civil en 1861, la guerra con España en 1898 y la primera guerra mundial en 1917). En la actual Segunda Guerra Mundial, el New York Hospital ha contribuído al esfuerzo bélico con un equipo de 56 médicos y 112 enfermeras. Con razón, el diario neoyorquino *New York World Telegram en cierta ocasión dijo en sus columnas:* "tres organismos han prestado servicios de esencial importancia en todos nuestros conflictos guerreros: el Ejército, la Marina y el New York Hospital."

Desde luego, toda la fructífera labor realizada por esta institución ha sido factible gracias a la entusiasta cooperación de sus clínicos y cirujanos. Las primeras prácticas quirúrgicas efectuadas en este hospital están descritas brillantemente por los doctores Eugene H. Pool y Frank J. McGowan. Estos dos autores describen en su obra la historia de los grandes cirujanos Valentine Mott, Alexander H. Stevens, Valentine Seaman, Wright Post, John Cummings Cheesman y John Kearney Rodgers y de los eminentes clínicos Samuel Bard y David Hosack. En verdad puede decirse que el New York Hospital ha sido durante largos años una de las grandes escuelas de cirugía de todo el país, y rememora a ciertas prestigiosas universidades de Europa, a las cuales en tiempos de pre-guerra afluían estudiantes de todos los lugares del globo. Edward Sheldon, antiguo presidente de la Junta de Gobernadores, dió a esta institución el apelativo de "Universidad Nacional de Medicina." El New York Hospital fué una de las primeras instituciones médicas mundiales que demostró que la enseñanza de la práctica de la medicina no tiene valor alguno si no va acompañada de la clínica. Hoy, dicho hospital y su anexo, la Escuela de Medicina de la Universidad de Cornell, es un centro cultural del mundo, de primordial importancia.

En 1932 se erigió el actual New York Hospital, que ocupa el imponente rascacielos que forma parte del magnífico grupo de construcciones ubicado en el corazón de la isla de Manhattan. Este enorme bloque, que se reproduce en la fotografía, incluye las siguientes organizaciones: el edificio principal del hospital, la *Payne Whitney Psychiatric Clinic*, el *Lying-In Hospital, The Pediatric Division*, el *Cornell University Medical College*, y la *Cornell University-New York Hospital School of Nursing*.

Entre la diversidad de trabajos de investigación que se llevan a cabo en el New York Hospital destacan los trabajos sobre el shock, causas de las recidivas de la malaria, tratamiento de las quemaduras con sulfamidas, uso de los tubos de vitallium para la reconstrucción de las arterias, injertos de nervios, uso de la penicilina, y trabajos de endocrinología. El año pasado se estableció en el Hospital el primer "banco de ojos" de los Estados Unidos. Para dar una idea de la intensidad de las actividades del New York Hospital, transcribimos los siguientes datos estadísticos pertenecientes al año 1944: número de camas, 1,448; número de enfermos tratados, 65,941; operaciones practicadas, 9,115; radiografías efectuadas, 122,407.

Este breve relato nos muestra que los primitivos hospitales del continente occidental todavía se yerguen incólumes y que sus vetustos muros fueron testigos de toda la historia de los pueblos del continente americano. Hoy día el hospital moderno es el centro de todas las actividades médicas, orgullo de la ciencia y crisol donde se forja el espíritu de las nuevas generaciones de hombres que han de luchar contra el dolor y velar por la salud.

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SUMMARY

The first hospitals in the Americas seem to have been established in the sixteenth century, by the Spaniards. They were administered almost entirely by two religious orders. Some of these hospitals are still in existence and in service. Outstanding among these is the Hospital de Jesús in Mexico, which most authorities believe to be the first hospital erected, and which has given continuous service for more than four hundred years. A few authors have expressed the opinion that this institution is antedated by the Hospital de San Nicolás de Bari (Santo Domingo), now in ruins.

In North America the first hospitals were built in the eighteenth century. The Charity Hospital of Louisiana in New Orleans is one of the early hospitals on this continent which is still active, and the Pennsylvania Hospital in Philadelphia is another. The latter is generally considered the oldest hospital in the United States.

The New York Hospital has also given

long and brilliant service. The early surgical work in this hospital has been well described by Drs. Eugene H. Pool and Frank J. McGowan.

The first hospitals naturally left much to be desired from the standpoint of hygiene and sanitation. But the work of Lister and Pasteur in the nineteenth century brought a new era.

This brief report shows how the hospitals of the past have developed into the institutions of today that are the center and heart of all medical activity.

RÉSUMÉ

Les espagnols fondèrent, au seizième siècle, les premiers hôpitaux en Amérique. Ces hôpitaux étaient entièrement sous le contrôle de deux ordres religieux. Certains de ces hôpitaux fonctionnent encore de nos jours. Entre autres, l'Hospital de Jesús, au Mexique, qui, d'après la plupart des autorités, fut le premier hôpital érigé sur ce continent et qui fonctionne depuis plus de quatre cent ans. Quelques auteurs ont exprimé l'opinion que cet hôpital est antédaté par l'Hospital de San Nicolás de Bari (Santo Domingo), aujourd'hui en ruines.

Aux États-Unis, les premiers hôpitaux furent fondés au dix-huitième siècle. Le Charity Hospital of Louisiana à la Nouvelle Orléans est un de nos premiers hôpitaux qui est encore en existence. Le Pennsylvania Hospital à Philadelphia en est un autre et est généralement considéré comme l'hôpital le plus ancien des États-Unis.

Le New York Hospital aussi a depuis longtemps servi le public et joui d'une carrière brillante. La première chirurgie de cet hôpital a été bien décrite par les docteurs Eugene H. Pool et Frank J. McGowan.

Du point de vue de l'hygiène et des conditions sanitaires les premiers hôpitaux laissaient beaucoup á désirer. Mais les travaux de Lister et de Pasteur amenèrent au dix-neuvième siècle une nouvelle ère.

Ce bref rapport montre comment ces hôpitaux des temps passés ont évolué dans les institutions de nos jours, institutions qui sont le centre et le coeur de toutes les activités médicales.

ВЫВОДЫ

Первые госпитали в странах Южной Америки были построены испанцами. Они были под надзором двух религиозных орденов. Некоторые из них сохранились до настоящей поры. Наиболее выдающийся из этих госпиталей, это Hospital de Jesus в Мексике. По мнению многих это первый построенный госпиталь. Он служил безпрерывно более четырех сот лет. По мнению других авторитетов Hospital de San Nicolás de Bari в Санто Доминге, теперь в развалинах, еще старше.

В Северной Америке госпитали появились в восемьнадцатом столетии. Charity Hospital в Новом Орлеансе один из самых старших, хотя Pennsylvania Hospital в Филадельфии обыкновенно считается самым старшим госпиталем в Соединенных Штатах.

LA ESTERILIDAD SEGURA, COMPROBADA

es otra de las razones por las que las suturas Salvus van al paso con el progreso de la cirugía

El método patentado Salvus de esterilización por calor en tubo cerrado, en el vacío, esteriliza verdaderamente y positivamente. Siguiendo este método exclusivo, la técnica empleada en el laboratorio para introducir el flúido, para cerrar el tubo herméticamente o para cualquier otro fin, no depende en nada de la ecuación personal, puesto que el método de esterilizatión en tubo cerrado excluye la posibilidad de la contaminación accidental de la sutura al prepararla.

El Método se basa en el principio de que si un tubo está bien tapado con algodón absorbente, ninguna bacteria puede entrar en él, y que si se lo somete a una temperatura suficientemente alta, ninguna bacteria puede vivir.

Primero se ponen las suturas en los tubos, y después se tapan estos perfectamente. Luego se los somete a esterilizatión por calor en el vacío, en una cámara de mucho enrarecimiento, y les entra flúido por infiltración a través del tapón de algodón, mientras aun se hallan en la cámara esterilizadora. Por último, se cierran los tubos herméticamente, sin haber sacado los tapones ni un momento.

Este método, de esterilización constituye el mayor adelanto logrado hasta ahora en la fabricación de suturas, y es una de las razones por las cuales las suturas Salvus son siempre seguras.

El proveedor, la General Electric Medical Products Co. puede indicar precios y suministrar las suturas.

Salvus Products, Inc.

1750 N. Spring

NOTICIAS Y ANUNCIAS

Cuba

Congreso cubano.—El I Congreso Cubano de Enfermeras y Enfermeros tuvo lugar en la Habana en dbre. 1944. Los votos más destacados fueron sobre: modificación de los planes de estudios; creación de un colegio único para ambos sexos; sueldo mínimo; y utilización de la profesión en la asistencia social.*

Colombia

Visitadoras en Colombia.—El 19 de diciembre 1944 el Ministro de Trabajo, Higiene y Previsión Social entregó en Bogotá sus diplomas de Visitadoras de Higiene Pública, a 34 señoritas que habían completado sus estudios primero teóricos en Bogotá, y luego prácticos en Girardot, durante un período de 6 meses. De las nuevas alumnas, 8 serán destinadas al Patronato Infantil de Barranquilla y 26 a los Centros de Higiene Modelos del Servicio Cooperativo Interamericano del Ministerio de Higiene. (Diario "El Espectador.")*

Argentina

Salario mínimo.—La Secretaría de Trabajo y Previsión de la Argentina por iniciativa de la Asociación del Personal de Hospitales y Sanatorios Particulares de Ayuda Mutua, dictó el decreto No. 29294 de 1944 que fija los sueldos mínimos al personal de los hospitales y sanatorios del país. El decreto determina cuáles han de ser las retribuciones para cada una de las especialidades gremiales, tales como enfermeros de ambos sexos, cabos, encargados de pabellones, personal de servicio, farmacia, talleres y kinesiólogos, etc.*

Cruz Roja Argentina.—La primera Conferencia Nacional de la Cruz Roja, celebrada en Buenos Aires en dbre. 1944, aprobó una multitud de resoluciones sobre: creación de nuevas escuelas de enfermeras y samaritanas con nuevos programas de estudio; uniformes; movilización y registro de personal; intensificación del espíritu de Cruz Roja en el alumnado; discusión por las filiales, de preceptos higiénicos; y denominar centros de la juventud a los organismos de la Cruz Roja en las escuelas. (Día Méd., 1541, dbre. 11, 1944.)*

Uruguay

Neurocirugía.—El Primer Congreso Sudamericano de Neurocirugía tuvo lugar en Montevideo, del 1 al 4 de marzo de 1945.*

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* Reproducido del *Boletín de la Oficina Sanitaria Panamericana.*

SYRUP
VANA-DIAZINE
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with
THIAMIN CHLORIDE

Vana-Diazine es una suspensión de sulfadiazina con sabor a vainilla con cloruro de tiamina en una base de azúcar invertida. Esta preparación es un método agradable y aceptable para administrar la sulfadiazina.
El cloruro de tiamina tiende a impedir la náusea que generalmente se experimenta en el uso prolongado de la sulfa terapia, y es un factor antianémico ligero, contrarrestando la anemia secundaria en el prolongado uso de la sulfa terapia.

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Un método agradable y homogéneo estable de la terapia sulfadiazina.

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Un método eficaz de administrar dosis adecuadas para *efecto terapéutico máximo.*

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Aumenta el suministro de hidratos de carbono para el metabolismo del cuerpo.

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Un adjutor para aumentar el contenido de cloruro de tiamina del cuerpo especialmente en la terapia prolongada de drogas sulfas.

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Cada onza flúida representa:
Cloruro de tiamina .. 24 mg.
Sulfadiazina .... 40 gr.
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El tratamiento del Cancer del Pene

Nuestro Concepto Actual

ANGEL H. ROFFO, M.D., Y GUILLERMO IACAPRARO, M.D.
BUENOS AIRES, ARGENTINA

ES concepto general que el pene como localización de cáncer es de frecuencia, sino rara, excepcional. En varias ocasiones hemos manifestado que ese criterio no es exacto, el cáncer de pene, si bien no es una afección común, no es tampoco extremadamente rara.

Hablan elocuentemente en ese sentido las estadísticas del Instituto de Medicina Experimental para el Estudio y Tratamiento del Cáncer, que demuestran que en estos últimos quince años la morbilidad por esta localización neoplásica aumenta progresivamente, mientras en el año 1926 la frecuencia de esta localización no alcanzó al 1 por ciento, en los últimos cinco años ha sobrepasado el 2 y 3 por ciento.

Sentado el diagnóstico de cáncer de pene por la biopsia (criterio impuesto sistemáticamente en este instituto) corresponde siempre resolver su terapéutica por vía de dos tratamientos, a saber (1) el tratamiento curativo, si es posible, y (2) el tratamiento paliativo.

Entre los tratamientos curativos las experiencias realizadas en este Instituto nos obligan a considerar dos tipos distintos (A) tratamientos quirúrgicos y (B) tratamientos físicos.

TRATAMIENTOS QUIRÚRGICOS

Siempre que estemos en presencia de un cáncer de pene dispuestos a proceder

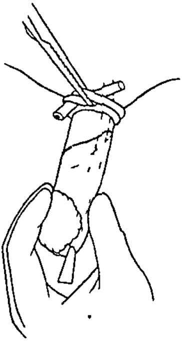


Fig. 1. Amputación del pene. Ligadura en la base. Bujía colocada en la uretra. Trazado en raqueta de la línea de incisión.

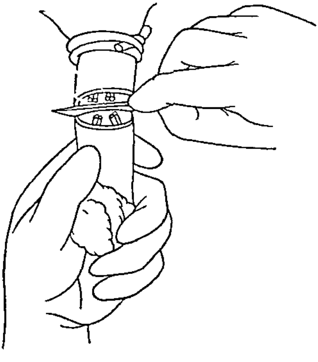


Fig. 2. Sección de los cuerpos cavernosos y de su envoltura fibrosa. (Cathelin.)

Resumen de un trabajo presentado en la tercera Asamblea Internacional del Colegio Internacional de Cirujanos, 1941.

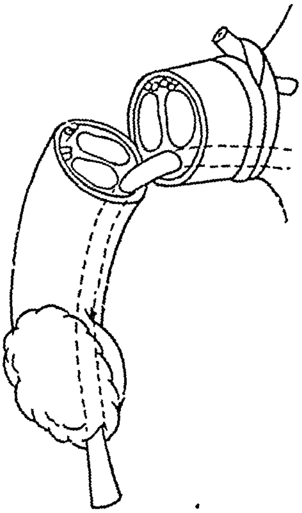


Fig. 3. Sección de los cuerpos cavernosos. Unicamente queda sin seccionar la uretra. (Cathelin.)

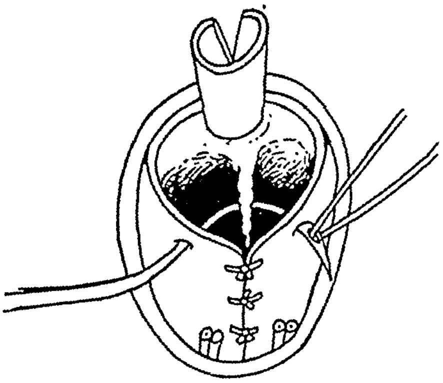


Fig. 4. Sutura de la vaina de los cuerpos cavernosos. Se ve la aguja tomar el rafe mediano. La uretra se ha seccionado 1 cm. adelante. (Cathelin.)

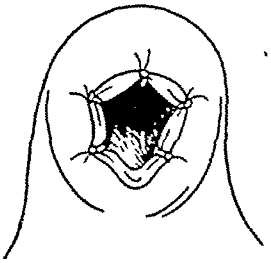


Fig. 5. Operación terminada con sutura uretra cutánea. (Cathelin.)

a su extirpación por métodos quirúrgicos, debemos optar por uno de los cuatro procedimientos siguientes: (*a*) la exéresis simple del tumor, (*b*) la amputación parcial, (*c*) la amputación total y (*d*) la emasculación.

El primero de ellos (exéresis simple), que ha sido y es el procedimiento de elección, es el que practicamos cuando las condiciónes de la afección lo permiten (evolución reciente, lesión localizada, poco proceso infiltrativo).

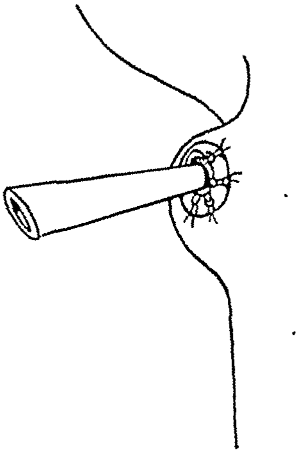


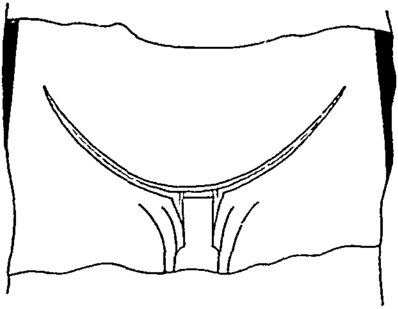
Fig. 6. Aspecto de la amputación con el drenaje temporario. (Cathelin.)

Sin embargo debemos destacar que son muy contados los casos en los cuales el tumor reune las condiciónes necesarias indispensables para realizar un tratamiento tan limitado que resulte eficaz.

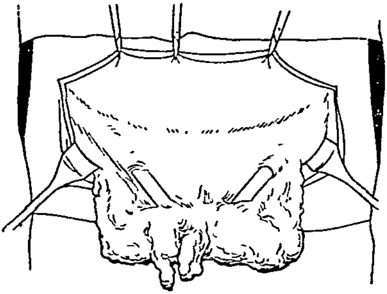
La amputación parcial es la operación que con más frecuencia se realiza en el Instituto de Medicina Experimental, más o menos conservadora según sea la extensión del tumor.

La amputación total unicamente la indicamos cuando la neoplasia ha invadido todo el órgano, o cuando sospechamos completa invasión de los cuerpos cavernosos.

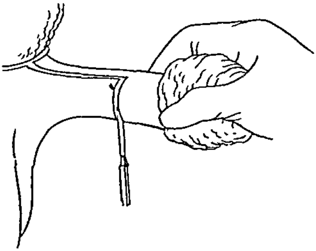
Fig. 7. Tecnica de la operación de Young: amputación parcial y total con vaciamiento ganglionar.



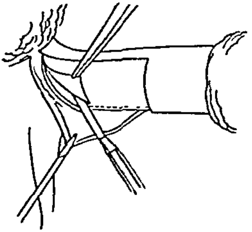
A. Incisión curva que va de una ingle a la otra, e incisiones paralelas que toman la base del pene.



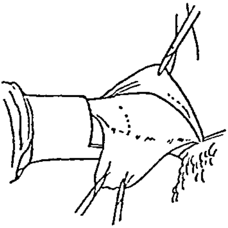
B. Disección de las regiones inguinales y de la region suprapubica Pueden verse los cordones espermáticos



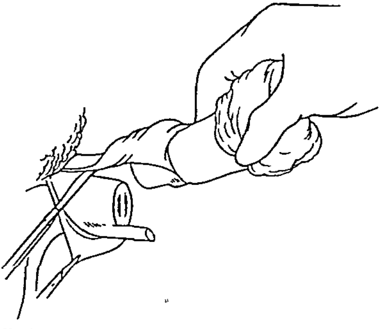
C Incisión de la piel en la región del pene.



D. Disección de la región peneana.

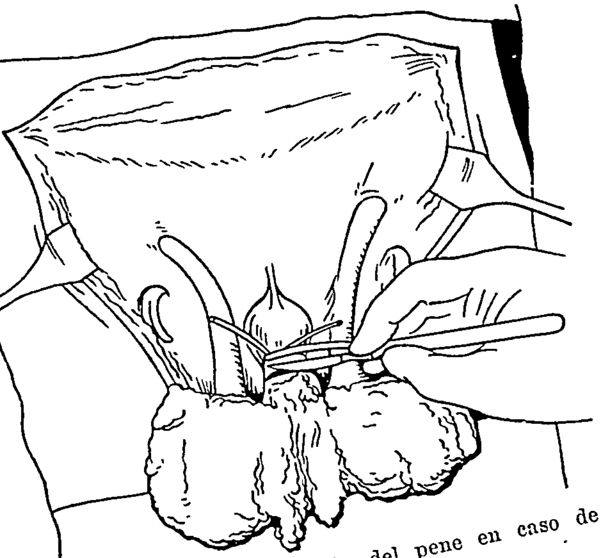


E. La disección terminada. Queda expuesto el cuerpo cavernoso.

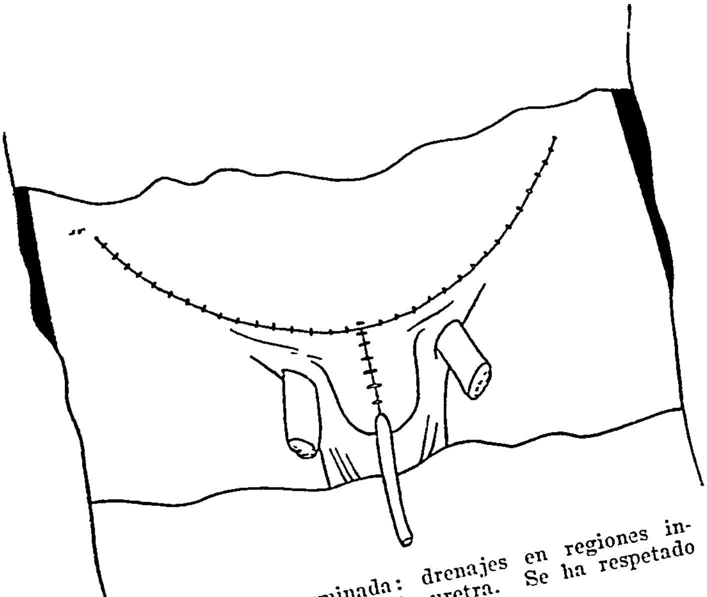


F. Amputación parc [illegible] pene. Nótese distancia altura [illegible] cuerpos [illegible] nosos y el [illegible].

ig. 7. (Continuación)

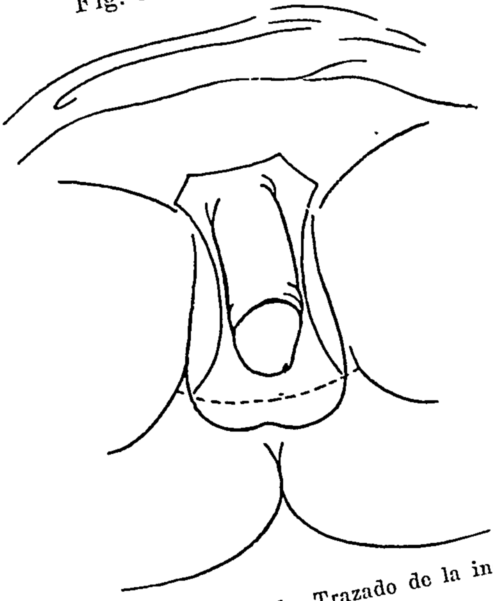


G. Amputación total: sección del pene en caso de amputación total.

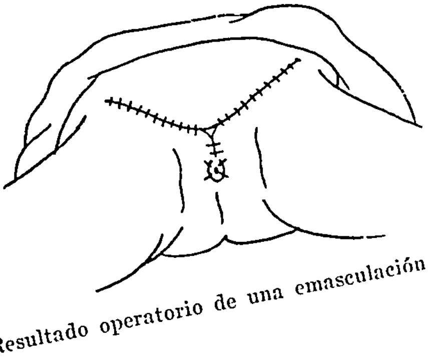


H. Operación terminada: drenajes en regiones inguinales y sonda en la uretra. Se ha respetado cordones y contenido escrotal.

Fig. 8. Emasculación.



A. Emasculación total. Trazado de la incisión.



B. Resultado operatorio de una emasculación total.

La emasculación, operación mutilante que supone la exérsis de todo el sistema de órganos genitales externos, la realizamos, casi diríamos, por excepción—criterio que justificamos ampliamente recordando que jamás el testículo está invadido en los cánceres del pene.

En efecto, las vías linfáticas son en un todo independientes y distintas, y la progresión del tumor peniano hacia la glándula genital por continuidad no se realiza dada la protección eficaz que ejerce la albuginea testicular.

Aún en los casos en que el tumor es muy grande y puede llegar al escroto y la piel del pubis, respeta siempre la glándula genital.

Insistimos en este recuerdo anatómico y en este hecho clínico porque la experiencia nos autoriza a afirmar que la emasculación debe practicarse excepcionalmente en los tumores de pene. Es un intervención mutilante que no se justifica sino excepcionalmente.

Todas estas intervenciones, cualquiera sea la extensión de las mismas, las realizamos siempre con la ayuda del bisturí eléctrico, en sus dos formas de aplicación: sección o corte y eléctrocoagulación.

El bisturí eléctrico tiene en el tratamiento de estas lesiones un valor de excepción. Son innumerables las ventajas que reporta: (1) realiza una buena hemostasis; (2) coagula los vasos linfáticos evitando la propagación del proceso séptico que con frecuencia existe agregado a la lesión; (3) impide la embolización de células cancerígenas; (4) en los sitios donde se realiza la incisión destruye elementos neoplásicos e impide la posibilidad de los injertos.

Repetimos que cualquiera sea el procedimiento quirúrgico a adoptar, siempre en el Instituto se realiza con la base del bisturí eléctrico.

TRATAMIENTOS FÍSICOS

Entre los procedimientos físicos hay que considerar a la curieterapia y a la radioterapia profunda. En estes Instituto en un principio muchos tumores de pene fueron tratados con radium (radium puntura y radium en superficie).

El advenimiento del bisturí eléctrico con sus resultados ha substituido con ventajas al procedimiento curieterápico. No queremos con ello significar que este último tratamiento no sea eficaz, pero si creemos que los resultados permiten afirmar que *el bisturí eléctrico realiza con ventajas el efecto terapéutico del radio.*

El radio tiene como formal enemigo en su aplicación a dos factores: la infección y la radio resistencia relativa de ciertos tipos celulares. Es así como en los nevocarcinomas y en los epiteliomas espinocelulares e infectados el radio se manifiesta insuficiente como terapéutica efectiva y en esos casos para obtener efectos curativos eficientes debe aplicarse a los enfermos dosis tales que significan grandes mutilaciónes. Por eso en los procesos de neoplasias destructivas donde la curieterapia signifique mutilación debe preferirse siempre el tratamiento quirúrgico con la ayuda del bisturí eléctrico.

En trabajos anteriores hemos destacado que en el Instituto no hemos tenido un gran porcentaje de éxitos efectivos con la radiumterapia en los tumores de pene, al punto tal que desde hace años la practicamos unicamente como tratamiento de excepción.

Ultimamente utilizamos una terapéutica que nos ha proporcionado éxitos cuando las condiciónes del tumor lo han permitido; nos referimos a la próximo radioterapia con el tubo de Chaoul (Monopan).

Varios enfermos tratados con Monopan en el Instituto llevan ya un tiempo prudencial de observación, y en ellos la perfecta cicatrización del proceso permite afirmar la curación del mismo. *La base de su indicación es la ausencia de lesiónes ganglionares satélites palpables.*

Respecto a la adenitis neoplásica repetimos hoy lo que en trabajos anteriores ya afirmamos: La lesiones de pene con diagnóstico precoz muchas veces no exigen intervenciónes amplias con extirpación en block de ganglios linfáticos. La repercución neoplásica ganglionar no es muy frecuente y depende del tipo histológico del tumor y del tiempo de evolución; en un gran porcentaje de los casos son simples adenitis inflamatorias, y en consecuencia operaciónes limitadas permiten el retroceso rápido de la inflamación ganglionar. Existen pues muchas veces adenitis inflamatorias y no neoplásicas.

La próxima radioterapia siguiendo la técnica de Chaoul fué empleada en este Instituto primeramente para los cánceres de la piel con el fin de "humanizar lesiónes neoplásicas" cuando ellas eran enormes y no aceptaban tratamientos radicales efectivos. Con esto conseguimos modificar en muchos casos procesos de gran desarrollo, facilitando la cicatrización de lesiónes ulcerosas, suprimiendo el carácter sanioso de la superficie tumoral y modificando el aspecto de la misma.

Este hecho clínico observado permitió su aplicación en los tumores de pene localizados.

Los resultados obtenidos por el momento nos conforman ampliamente, si bien sabemos que el tiempo y la observación son factores indispensables en el problema terapéutico del cáncer y ellos darán su palabra sobre el verdadero valor y la eficacia de este procedimiento fisioterápico.

En lo que respecta a la metástasis ganglionar sólo realizamos la exéresis de la misma en forma sistemática en los casos en que la adenitis cancerosa clinicamente se denuncia; cuando ella no presenta carácter de tal, practicamos primeramente la biopsia y luego sistematicamente la radioterapia profunda, con aparatos de alta tensión.

PRONÓSTICO

Cuál es el pronóstico de los enfermos portadores de un cáncer de pene?

En lo que se refiere a las recidivas, la recidiva "in situ" no es de observación frecuente; cuando se produce se observa casi siempre dentro del primer año de la operación. La recidiva frecuente que da carácter de malignidad es la metástasis ganglionar.

En los tumores espinocelulares cuando la extirpación ganglionar no se ha realizado o se ha hecho imperfectamente, o cuando la radioterapia profunda ha sido insuficiente, la recidiva ganglionar se observa precozmente dentro del primer año. La recidiva satélite en el segundo o tercer año se observa con menos frecuencia.

Una lesión neoplásica de pene que no recidiva despues de tres años autoriza a considerar curado al enfermo.

Las metástasis viscerales con sindrome clinico definido de proceso neoformativo (hepático o pulmonar) son poco frecuentes.

Dijimos en trabajos anteriores que es posible que en autopsias encontremos nidos celulares en órganos diversos, pero en general los enfermos con un cáncer peniano mueren por su lesión local o por su metástasis ganglionar satélite, excepcionalmente por metástasis visceral.

El pronóstico de esta neoformación maligna a localización peniana debiera ser siempre en el 100 por ciento de los casos benigno, dado que su diagnóstico *precoz fácil de realizar permite una terapéutica precoz efectiva y curativa.*

Pero desgraciadamente las estadísticas del Instituto no son todo lo halagador que debieran, pues los enfermos se presentan en condiciones lamentables con un proceso neoformativo tan avanzado que presume la invasión ganglionar.

Malos consejos, terapéuticas insuficientes, favoreciendo la evolución de la afección, hacen que el tratamiento radical retardado, resulte muchas veces ineficaz.

La importancia del diagnóstico precoz es enorme, solo así se puede evitar una operación cruel. Muchas veces vemos llegar al Instituto desgraciados enfermos que después de peregrinar meses y meses con lesiones proliferativas no diagnosticadas en su esencia etiológica han sido sometidos a medicaciones anodinas cuando no cáusticas, que lejos de mejorar agravan la lesión, excitando la genesis cancerosa, favoreciendo la atipia celular de simples papilomas benignos en un principio.

En materia de cáncer la educación de los enfermos es primordial; deben siempre, en el caso de la localización que nos ocupa, recurrir a un médico especializado o a un dispensario apropiado cada vez que vean aparecer el primer síntoma de una lesión sospechosa, sangrante, de tipo ulceroso o productivo, que no cede a los tratamientos habituales y simples.

Deben también nuestros colegas conocer el valor importante que tiene la biopsia y el valor de su realización precoz, la biopsia, acto de ejecución fácil y simple, debe siempre realizarse con frecuencia en los casos de enfermos portadores de afecciones ulcerativas o productivas sospechosas. No olvidemos que las lesiones destructivas de la región peniana no tienen porqué ser siempre lesiones sifilíticas o estreptobacilares y evitemos así someter enfermos durante meses y años a tratamientos específicos, esperanzados en curarlos.

Estos tratamientos no hacen sino agravar el pronóstico de lesiones neoplásicas malignas incipientes. El tratamiento efectivo radical y curativo exige terapéutica con aparatos especiales apropiados y métodos eficientes; y en ese sentido en el Instituto de Medicina Experimental contamos con los adelantos más modernos de la ciencia quirúrgica.

Repetimos que el pronostico y el porcentaje de los enfermos curados mejorarán (1) el dia que los pacientes suficientemente instruidos sepan que existen enfermedades graves que no provocan dolor ni fiebre, únicos síntomas alarmantes para el profano que los hace suponer enfermos realmente, (2) el día que los colegas se inculquen y ahonden dos conceptos que en materia de cáncer tienen capital importancia, (*a*) precocidad y frecuencia en la práctica de las biopsias y (*b*) no eternizar ni prolongar tratamientos específicos de prueba ni cauterizaciones prolongadas en lesiones ulcerosas crónicas que son en esencia cánceres en su iniciación.

SUMMARY

Carcinoma of the penis is curable in the majority of cases. A good issue depends on two factors (*a*) early diagnosis and (*b*) proper treatment.

The radical treatments used at present are electrosurgery, radium therapy, contact roentgen therapy and diathermocoagulation. The surgical treatment varies according to the extension of the new growth. Simple exeresis is preferred whenever possible, and partial or total amputation is done in more advanced stages, in order to avoid submitting patients to emasculation. Partial

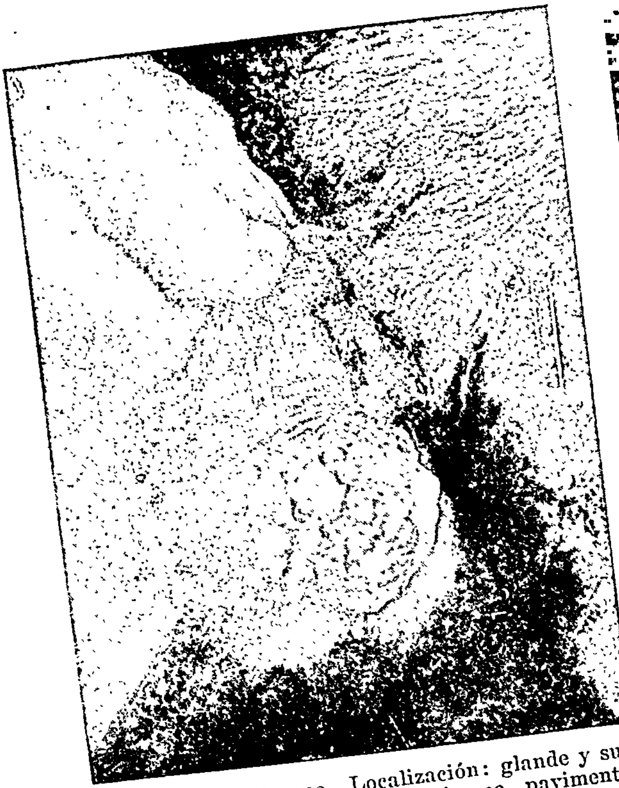


Fig. 9. Cáncer del pene. Localización: glande y surco balanoprepucial. Biopsia: carcinoma pavimentado perlado.

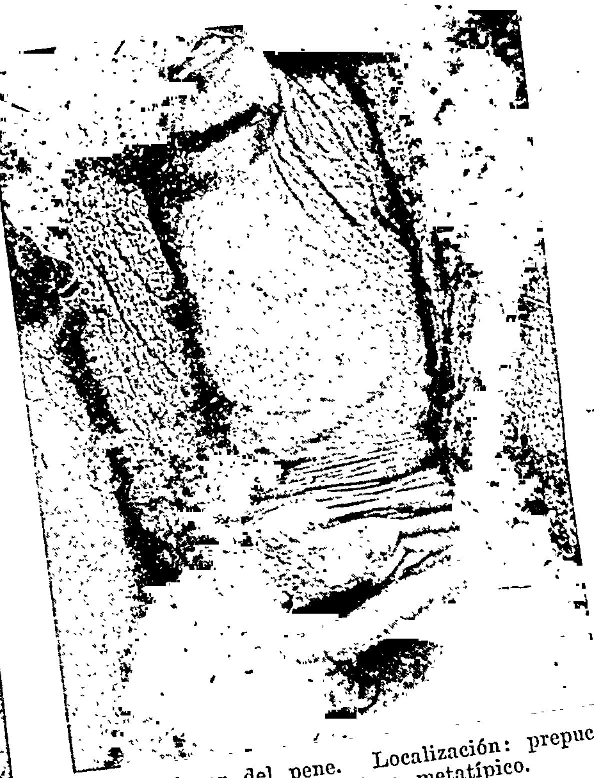


Fig. 11. Cáncer del pene. Localización: prepucio. Carcinoma pavimentoso metatípico.

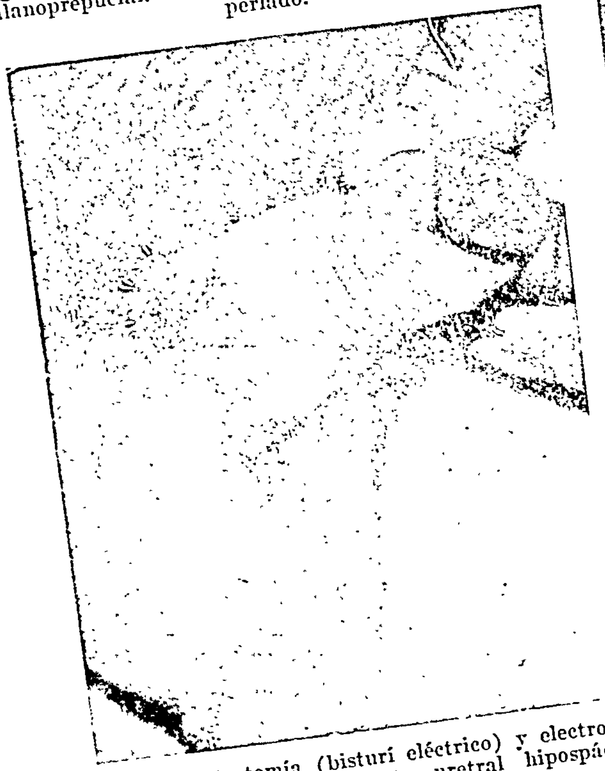


Fig. 10. Postectomía (bisturí eléctrico) y electrocoagulación del glande. Meato uretral hipospádico. Curación.

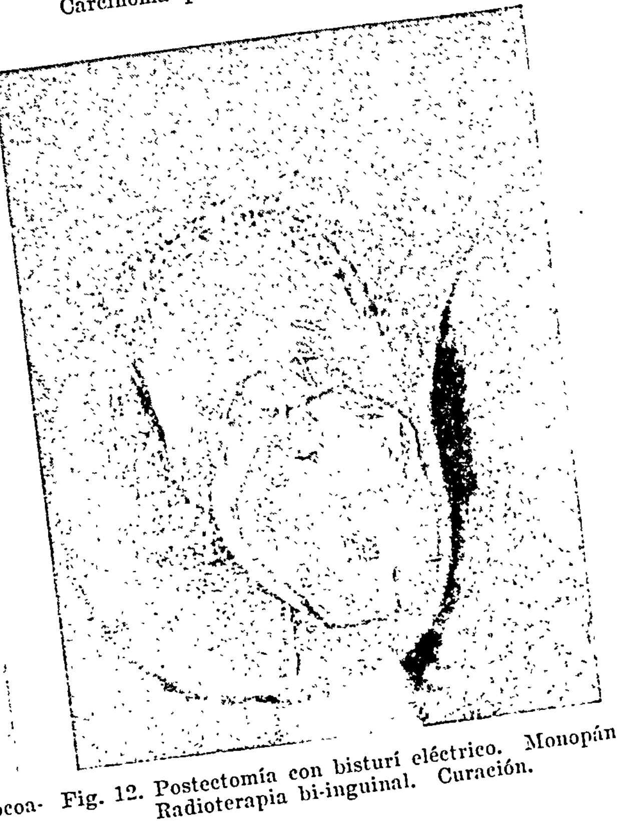


Fig. 12. Postectomía con bisturí eléctrico. Monopán Radioterapia bi-inguinal. Curación.

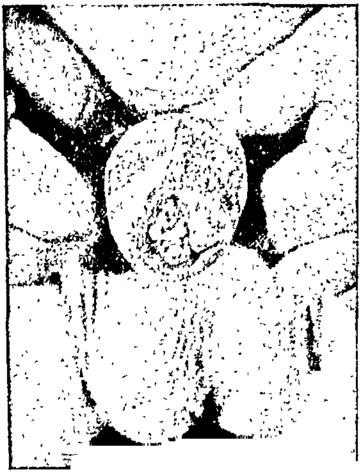


Fig. 13. Cáncer del pene. Localización: meato uretral. Biopsia: carcinoma pavimentoso metatípico.

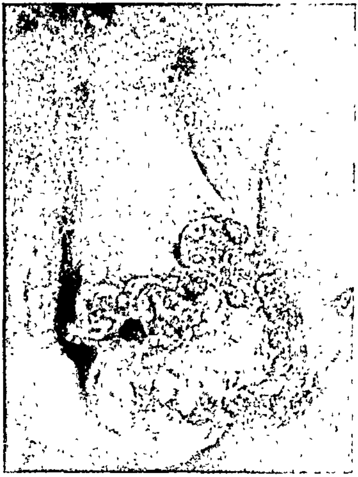


Fig. 15. Cáncer del pene. Localización: glande y prepucio; *infiltración de los cuerpos cavernosos. Biopsia:* carcinoma pavimentoso perlado.

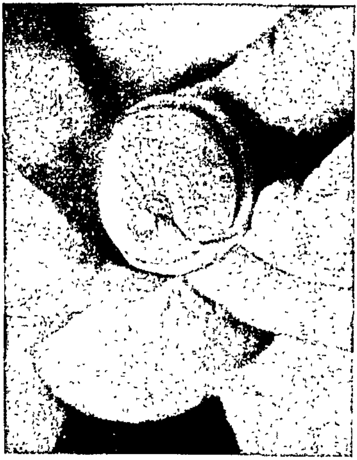


Fig. 14. Diatermocoagulación y monopán. Curación.

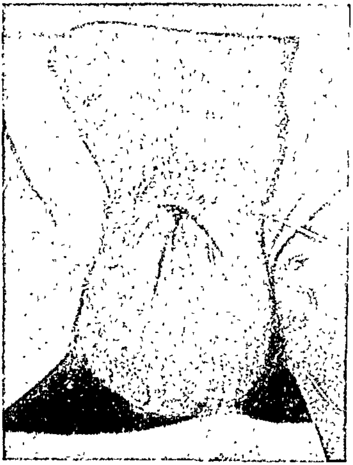


Fig. 15A. Amputación total (bisturí eléctrico). Radioterapia bi-inguinal. Curación.

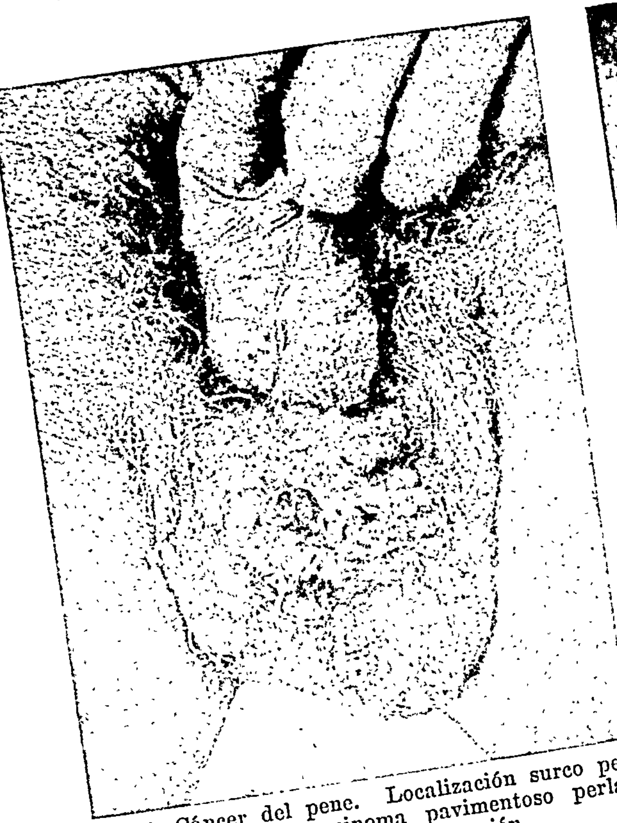


Fig. 16. Cáncer del pene. Localización surco peno-escrotal. Biopsia carcinoma pavimentoso perlado. Amputación total. Curación.

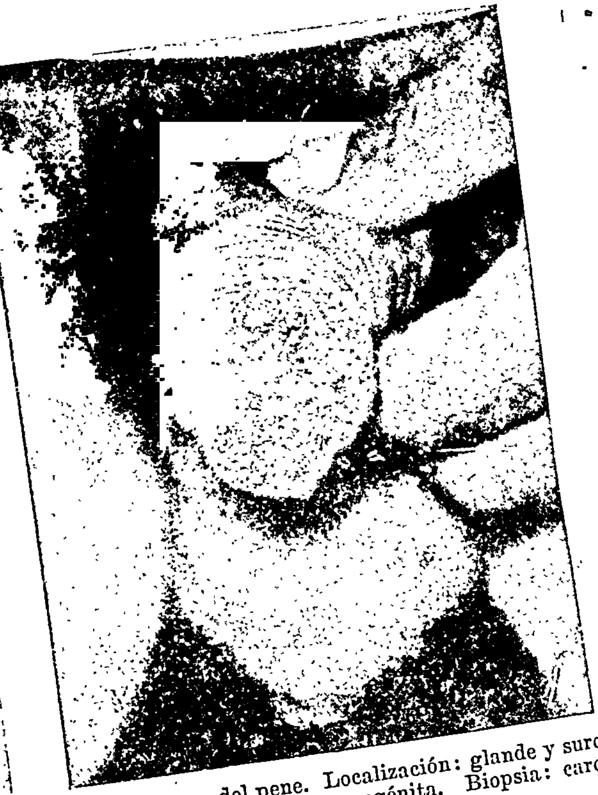


Fig. 18. Cáncer del pene. Localización: glande y surco balanoprepucial. Fimosis congénita. Biopsia: carcinoma pavimentoso perlado.

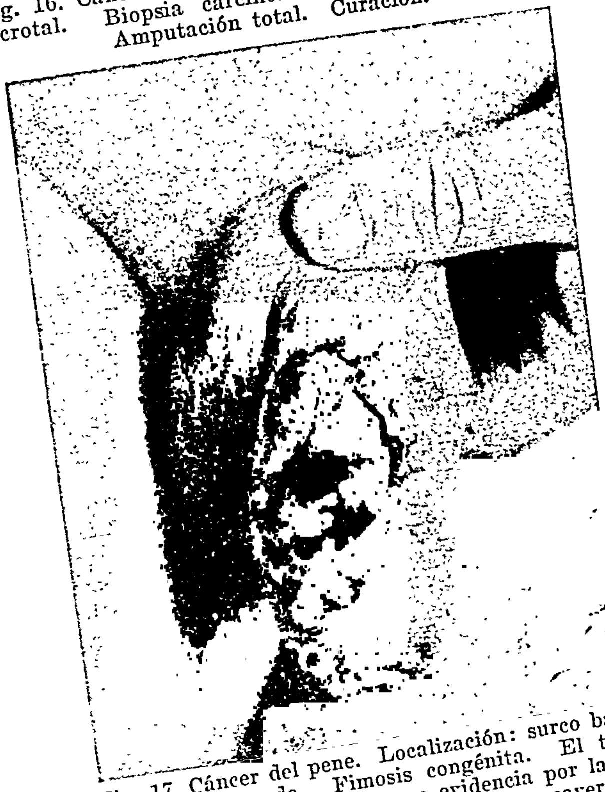


Fig. 17. Cáncer del pene. Localización: surco balanoprepucial y glande. Fimosis congénita. El tumor ulcera la piel del prepucio y se evidencia por la cara dorsal del pene. Infiltración de los cuerpos cavernosos. Amputación total. Curación.

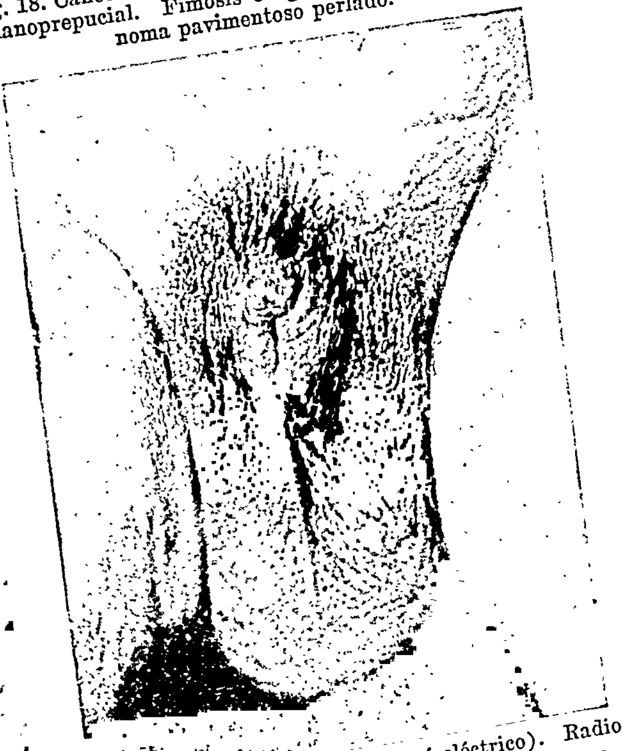


Fig. 19. Amputación total (bisturí eléctrico). Radioterapia bi-inguinal. Curación.

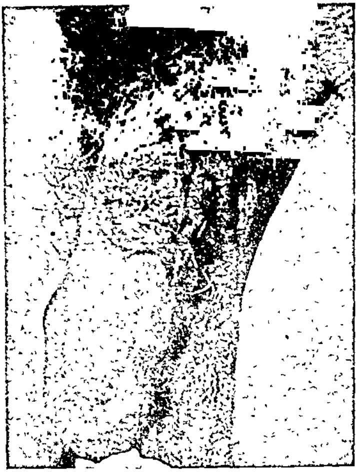


Fig. 20. Cáncer del pene. Localización: piel del pene. Biopsia: carcinoma pavimentoso perlado.

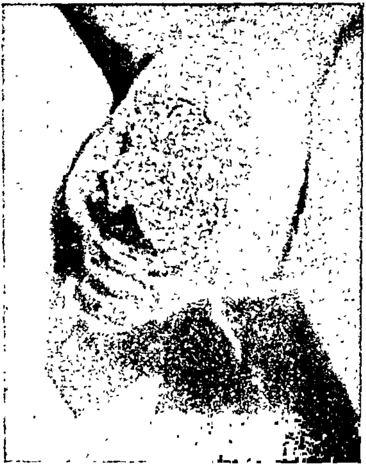


Fig. 22. Cáncer del pene. Localización: glande y prepucio. El proceso neoformativo invade la piel del pene aflorando por la zona dorsal. Fimosis congénita. Biopsia: carcinoma pavimentoso perlado.

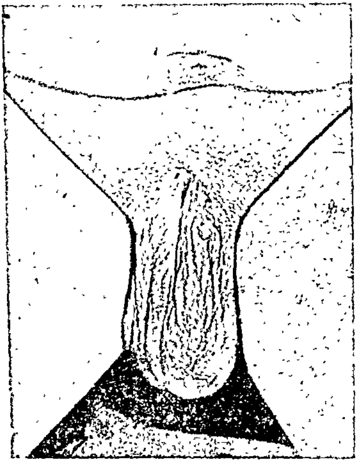


Fig. 21. Amputación total. Curación.

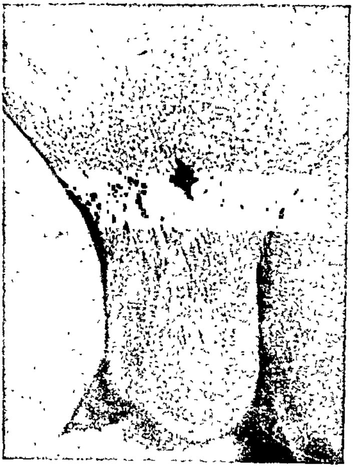


Fig. 23. Amputación total (bisturí eléctrico. Radioterapia bi-inguinal. Curación.

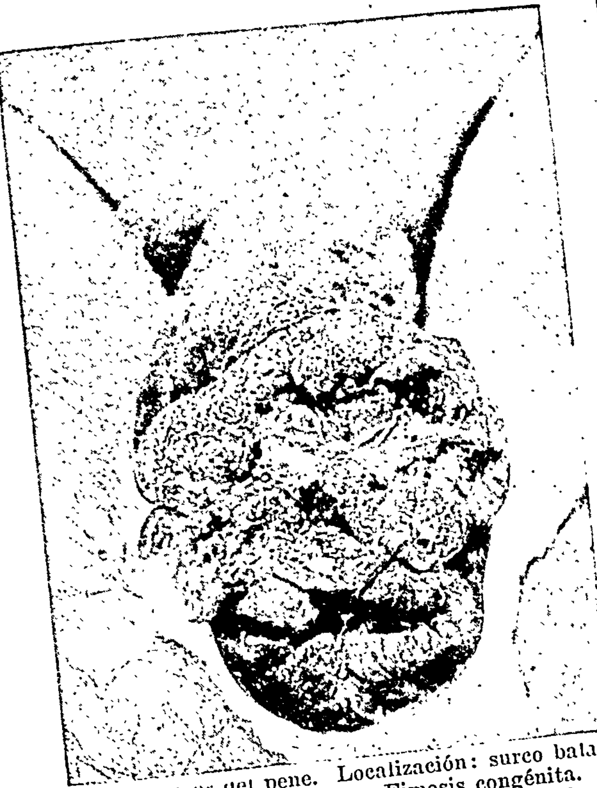


Fig. 24. Cáncer del pene. Localización: surco balanoprepucial, glande y prepucio. Fimosis congénita. La lesión neoformativa invade y destruye la piel del pene en su región dorsal. Biopsia: carcinoma pavimentoso perlado.

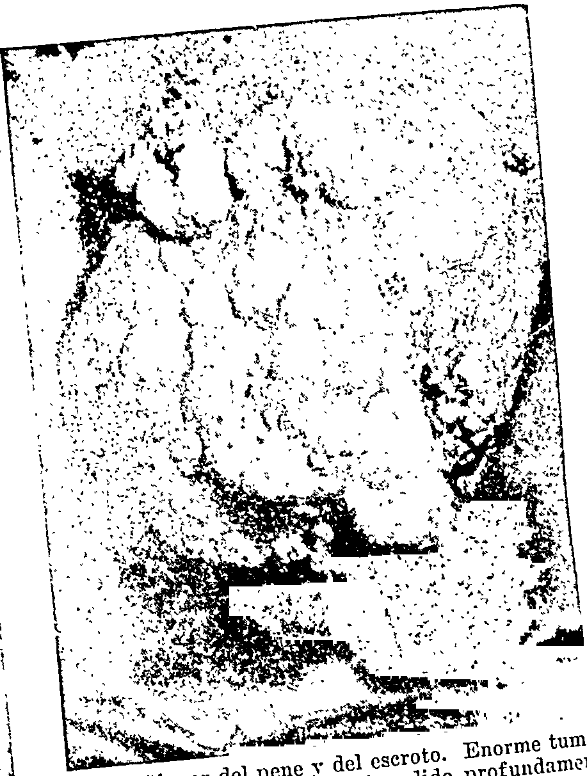


Fig. 26. Cáncer del pene y del escroto. Enorme tumor, que ha destruido el pene, he invadido profundamente el escroto. Biopsia: carcinoma pavimentoso perlado. Metástasis bi-inguinal. Inoperable. Terapéutica paliativa.

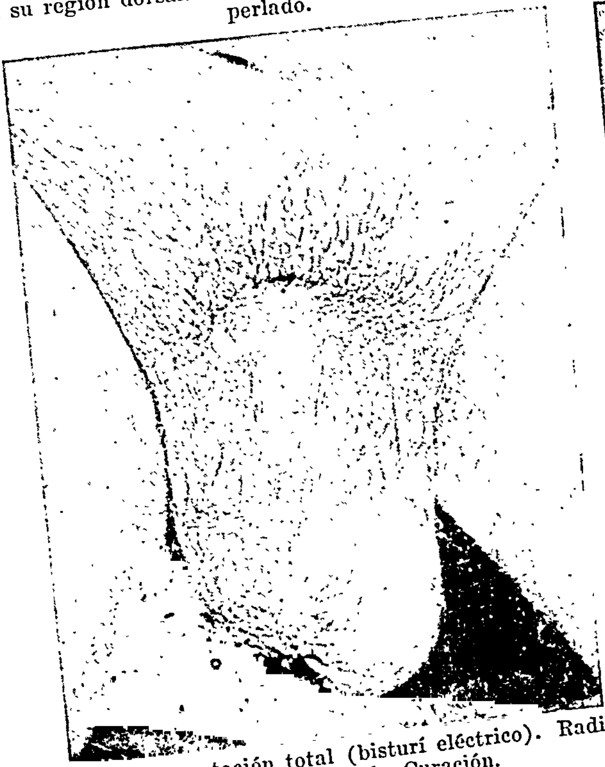


Fig. 25. Amputación total (bisturí eléctrico). Radioterapia bi-inguinal. Curación.

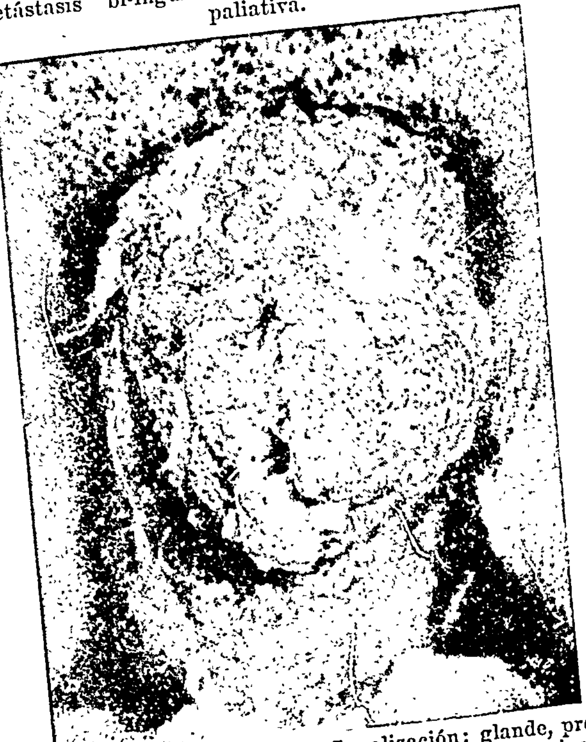


Fig. 26A. Cáncer del pene. Localización: glande, prepucio y cuerpo del pene. Metástasis bi-inguinal. Inoperable. Tratamiento paliativo.

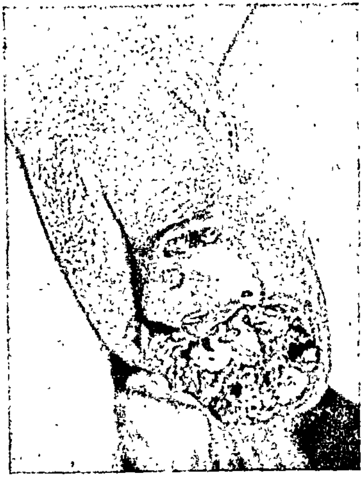


Fig. 27. Cáncer del pene. Localización: cuerpos cavernosos, glande, surco balanoprepucial y prepucio. Fimosis congénita. Nótese como la lesión tumoral ulcera y destruye el prepucio. Biopsia: carcinoma metatípico.

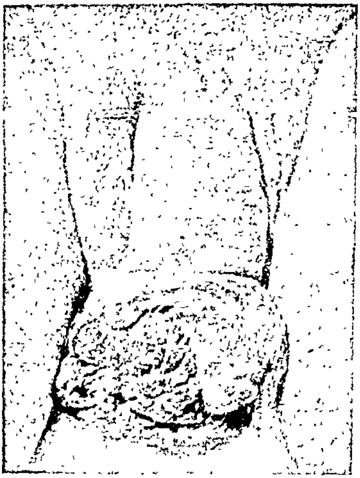


Fig. 29. Cáncer del pene. Localización: prepucio y glande. Biopsia: carcinoma pavimentoso perlado.

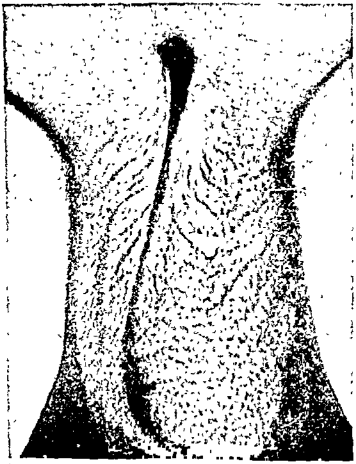


Fig. 28 [illegible]

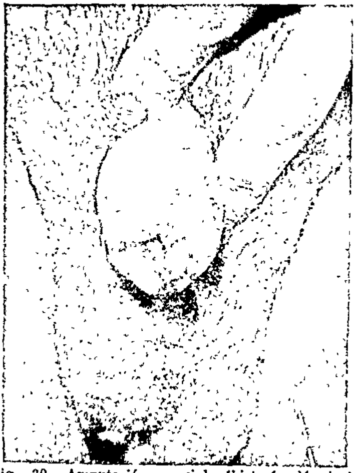


Fig. 30. Amputación parcial (bisturí eléctrico). Radioterapia bi-inguinal. Curación.

excision is the procedure employed most frequently in the Institute for Experimental Medicine. The electric bistouri is invaluable. As to radium therapy, the authors' opinion is categoric. They believe it to be an efficient therapeutic measure but certainly inferior to electrosurgery.

The lymph nodes are systematically preserved if the inflammatory nature of their involvement has been clinically proved. If they are neoplastic, excision of them is inevitable and should be followed by high voltage therapy, according to the stage of the malignant growth.

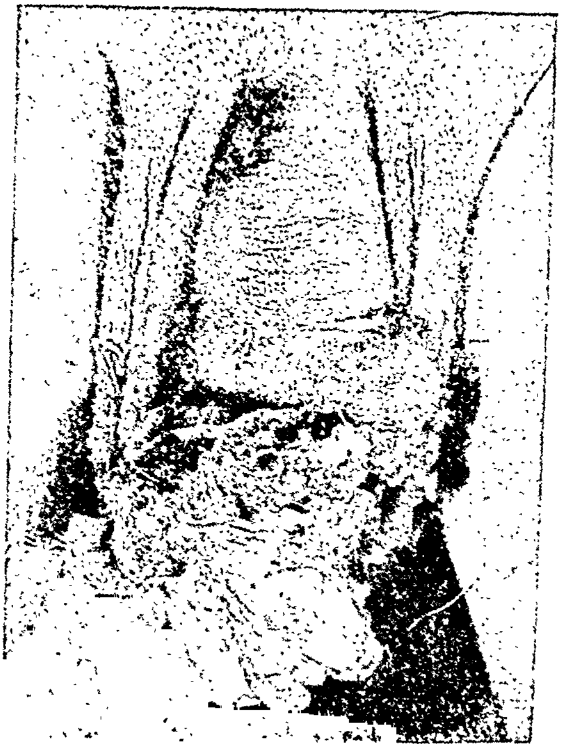


Fig. 31. Cáncer del pene. Localización: prepucio y surco balanoprepucial. Biopsia: carcinoma pavimentoso perlado.

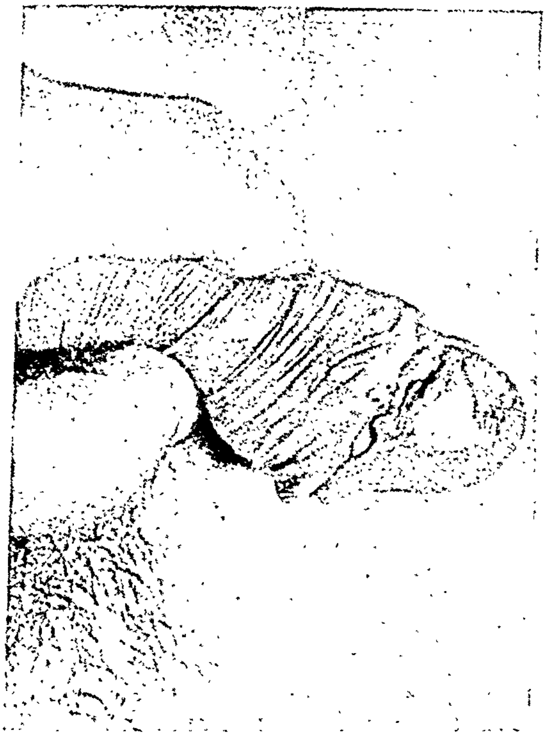


Fig. 32. Postectomía (bisturí eléctrico). Monopán. Curación.

In the surgical stump, recurrences are rare and usually take place in the course of the first year after the treatment. Recurrences in the lymph nodes are more frequent. As a rule, they also occur early (within the first year), but they may take place after the second, third or fourth year. Clinically, visceral metastases are rare. The organs which may be involved are, in the order of frequency, (1) the lung and (2) the liver.

The mortality from cancer of the penis is 50 per cent, according to the statistics of the Institute of Experimental Medicine. This high percentage is due to the poor local and general conditions, to the time of development of the lesion and to the inadequateness of the treatment to which patients have been submitted before their arrival at the Institute.

Three years without recurrence is generally sufficient to warrant one's considering a treated patient as definitely cured.

The prognosis of cancer in this location ought to improve when people learn to consult a physician at the first suspicious symptom and when physicians remember to perform a biopsy on any new growth before trying various treatments and cauterizations.

RÉSUME

Le cancer de penis est dans la plupart des cas parfaîtement curable Le succès depend de deux facteurs (*a*) precocite du diagnostic et (*b*) suffisance du traitement

Les traitements radicaux de l'heure actuelle sont l'electrochirurgie, la curiethérapie, la radiothérapie de contact et la diathermocoagulation

Le traitement chirurgical devra varier selon l'extension de la tumeur, en optant pour l'exérese simple autant que possible, et n'indiquant l'amputation partielle ou totale que dans des cas plus avances, pour ne realiser qu'exceptionnellement l'émasculation

Quant a la curiethérapie, l'opinion des auteurs est categorique Ils croient en sa grande valeur thérapeutique, mais la considèrent inferieure a l'électrochirurgie

Les ganglions doivent être respectés étant cliniquement en état inflammatoire, dans le cas des ganglions néoplasiques, c'est l'exerese qui est indiquée, avec radiotherapie de haute tension selon leur etat d'evolution

Les recidives dans le moignon chirurgical sont rares, et si elles se présentent, on les observe generalement au cours de la première annee

Les recidives ganglionaires sont beaucoup plus fréquentes, etant généralement precoces (au cours de la première annee), mais se présentant aussi plus tard, après la seconde, troisième et quatrième année

Cliniquement, les metastases viscerales sont exceptionnelles Les organes qui se trouvent le plus fréquemment envahis sont par ordre de frequence (1) le poumon et (2) le foie

La mortalite par cancer de penis est de 50 pour cent dans les statistiques de notre Institut

Ce pourcentage est agravé par les conditions locales et generales peu favorables, par le temps de l'evolution de la lésion et par l'insuffisance du traitement pratiqué antérieurement a l'arrivée à l'Institut

Une suivie de trois ans est générale ment suffisante pour considerer un malade traité comme definitivement guéri

Le pronostic s'ameliorera quand les malades sauront qu'ils doivent consulter un medecin au premier indice de la maladie et quand les médecins n'oublieront plus d'effectuer une biopsie de toute neoformation, avant pratiquer des traitements et des cautérisations à titre d'essai

СВОД

Действительно применимыми радикальными методами являются электрохирургия, радиотерапия контактная рэнтгенотерапия и диатэрмокоагуляция

Хирургический подход зависит от распространения опухоли Когда возможно, предпочитается обыкновенная резекция Частичная или тотальная ампутация совершается в более поздней стадии развития Таким образом только исключительные больные должны подвергнутся эмаскуляции

Если доказан клинически воспалительный характер вовлеченных лимфатических желез то они систематически сохраняются Но если они оказываются неопластическими, то их удаление делается неизбежным и должно быть последовано высокой вольтажной терапией в зависимости от стадии злокачественности

Мнение авторов относительно радиотерапии является категорическим Они считают ее очень эффективной терапевтической мерой но определенно уступающей электрохирургии

Рецедивы хирургического обрубка очень редки и, обыкновенно, случаются в первый год после лечения

Рецедивы лимфатических желез более часты Обыкновенно они тоже случаются рано (в течении первого года), но

иногда даже во втором, третьем и четвертом году.

Авторы считают «метастаз лимфатических желез» синонимом «exitus letalis» (смертного исхода).

Клинически, висцеральные метастазы редки. В порядке частоты органы поражаются (1) легкие и (2) печень.

Согласно статистическим данным института экспериментальной медицины процент смертности от рака penis'а 50%.

Высокая смертность является результатом плохого местного и общего состояния, давности поражения и недостаточности лечения, полученного больным до поступления в институт.

Отсутствие рецедидов в течении трех лет дает основание считать, что больной вылечен.

Прогноз рака в этом месте должен улучшиться, когда люди привыкнут советоваться с врачем при появлении первого подозрительного симптома и когда врачи запомнят, что до того как подвергнуть больного разным способам лечения и прижиганиям, необходимо сделать биопсию.

Просвещение публики, своевременный совет и правильное лечение превратят рак penis'а в болезнь, имеющую очень хороший прогноз.

IN MEMORIAM

EL DR. AMERICO FOSSATI *

(Uruguay)

El 20 de noviembre de 1944, a los 58 años de edad, y mientras desempeñaba la Presidencia de la Sociedad de Cirugía del Uruguay, falleció en Montevideo el Dr. Américo Fossati, cirujano de larga y fecunda actividad en nuestro medio, adornado de las más bellas virtudes y de una acrisolada hombría de bien.

El Dr. Américo Fossati, forjado en un hogar humilde, al que contribuía a sostener mientras hacía su carrera, había nacido el 25 de julio de 1886. Con una extraordinaria dedicación a las duras disciplinas de los estudios médicos, recibió su título de doctor en Medicina y Cirugía en el mes de abril de 1909, a los 22 años de edad. Casi en seguida fué nombrado Jefe de Clínica del Profesor Alfonso Lamas, en cuyo Servicio Quirúrgico trabajaba desde 1904.

En el mismo año 1909 fué designado Primer Médico Interno del Hospital Español y luego, en 1917, Cirujano Mayor del mismo establecimiento, cargo que aún desempeñaba cuando lo sorprendió la muerte. Creó en ese Hospital un centro quirúrgico altamente conceptuado, al punto que la Facultad de Medicina permitía a los estudiantes ganar el curso oficial en el mismo. Desde 1910 era, además, cirujano del Hospital Fermín Ferreira, cargo en el que se dedicó preferentemente a la cirugía del tórax.

Su actividad quirúrgicia fué muy intensa hasta muy poco antes de su muerte, y ella queda reflejada en los numerosos trabajos científicos publicados.

En la actividad docente el Dr. Américo Fossati tuvo, también, una destacada actuación. Era, desde 1927, Profesor Libre de Clínica Quirúrgica. En diversas oportunidades dictó cursos en el Hospital Español, en el Hospital Fermín Ferreira y en el Instituto de Tisiología.

Sus relaciones con la Sociedad de Cirugía del Uruguay fueron siempre muy estrechas. Era socio fundador y ocupó por primera vez la Presidencia de la Sociedad en 1934. Fué un asíduo concurrente a sus sesiones y aportó siempre, sin reticencias ni egoísmus, todo

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* Obituario reproducido del *Boletín de la Sociedad de Cirugía del Uruguay.*

(Continúa en página 403)

Algias Abdominales Esplacnicas

PROF. DR. MIGUEL LOPEZ ESNAURRÍZAR, F.I.C.S
MÉXICO, D. F., MÉXICO

AUNQUE el dolor abdominal tiene clara significación clínica y utilidad defensiva general, dentro de la fisiopatología del dolor, es evidente, sin embargo, que en numerosas ocasiones constituye casi toda la enfermedad, o toma la parte más importante o es solamente la manifestación más molesta del todo.

En estos casos, una terapéutica eficiente del dolor o cura al enfermo, lo alivia de tal modo que lo vuelve curable o solamente lo mejora y le prolonga la vida sin sufrimiento.

Uno de los procedimientos más rápidos y radicales en la terapéutica del dolor consiste en la paralización de los nervios sensitivos en acción, método que tiene su mayor importancia y oportunidad de aplicación cuando no hay recursos para curar desde luego el padecimiento, cuando no puede suprimirse la irritación terminal en el sitio mismo del padecimiento o cuando la terapéutica analgésica es ineficaz.

Al ocuparnos en éste trabajo de los métodos de paralización funcional de los troncos nerviosos abdominales, tenemos que referirnos a dos líneas o sistemas fundamentales, el del simpático y el del vago, pues aunque el primero es más claramente sensitivo, ni uno ni otro tienen la diferenciación funcional tan ostensible como los pares craneales.

Deseamos ocuparnos de la vía simpática, pero antes de ello, lo haremos de la del pneumogástrico, porque de acuerdo con los resultados obtenidos por otros autores y por nosotros, ello forma hasta ahora el anverso o lo negativo de lo que constituye lo fundamental de éste trabajo, esto es, las algias esplácnicas.

En 1912, Exner y Schwartsman relataron 20 casos de crisis gástricas muy dolorosas en las que efectuaron vagotomía anterior subdiafragmática, con resultados mediocres. Latarjet propuso una nueva operación más extensa, con el propósito de suprimir toda inervación vagal del estómago en casos de úlcera péptica y con la mira de "suprimir toda sensación, disminuir la frecuencia e intensidad de las contracciones y reducir la acidez." Sin embargo, como resultado de estas operaciones, se llegó a la conclusión de que la actividad del estómago permanece inalterable al menos con la vagotomía unilateral (McCrea). Por último, Weinstein, Colp, Hollander y Jemerin revisaron la literatura de la vagotomía gástrica, llegando a las conclusiones: (*a*) experimentalmente se observa ligera disminución de la secreción psíquica, mientras que en las demás fases no tiene efecto; (*b*) de los 6 casos de vagotomía que presentan se deduce que en ninguno de ellos pudo obtenerse beneficio terapéutico, y (*c*) la vagotomía no puede recomendarse como procedimiento terapéutico.

Llegamos ahora a lo fundamental de nestro propósito en éste trabajo, que consiste en presentar la experiencia obtenida por nosotros en la otra vía natural, el esplácnico. Un elemento de primera de que hemos dispuesto desde hace muchos años es la anestesia de los esplácnicos, ya que nos muestra, como en una experiencia fisiológica, las modificaciones viscerales, que son: la anestesia, la vasodilatación generalizada y el aumento de la motilidad del tubo digestivo. La fisiología del esplácnico, experimentalmente y clínicamente particularizada especialmente por Leriche, Pende, Allessandri, Zuckerman y Manzanilla, proporciona mayor apoyo a la idea de suprimir la vía simpática como medio tèrapéutico principal de las algias abdominales.

Con el fin propuesto hemos recurrido a la alcoholización de los esplácnicos, que, por habernos dado resultados satisfactorios en el propósito señalado, nos ha parecido suficiente y por lo tanto innecesario llegar a la esplanicectomía o a la esplanicotomía.

Escogeremos de nuestros archivos casos típicos observados por nosotros: (1) ejemplo de caso en el que el dolor abdominal, de intensidad dramática constituye casi toda la enfermedad, (2) caso en el que el dolor tiene la parte más importante y (3) caso en el que el dolor solamente constituye la parte más molesta.

CASO 1.—*Caso tipo en el que el dolor abdominal, de intensidad dramática, constituye casi toda la enfermedad.*

J. J., obrero textil, de 25 años de edad, sufrió el 30 de septiembre de 1940 un accidente en el trabajo por caída de altura de unos 3 metros, de forma que sufrió contusión abdominal y de la cara anterior del tórax; perdió de inmediato el conocimiento para recuperarlo paulatinamente, después de varios minutos, con sufrimiento de muy intenso dolor en todo el vientre, particularmente en el epigastrio y en la cara anterior del tórax; el dolor era más intenso con los movimientos respiratorios, que por ello se inicieron superficiales, frecuentes e irregulares; la intensidad del dolor aumentaba al intentar incorporarse. En estas condiciones, pálido y sudoroso, el paciente fué trasladado a nuestro sanatorio, donde recibió inmediatamente tratamiento de choque traumático, al mismo tiempo que se adelantaba la exploración para tratar de tener idea de sus lesiones y de su estado general.

Presentaba facies abdominal con expresión de dolor intenso, taquipnea, y localmente escoriaciones epidérmicas y rubicundez, especialmente en el epigastrio; abombamiento epigástrico irregular con endurecimiento pastoso y vaga sensación de crepitación sanguínea de localización parietal que ocultaba a la exploración el plano visceral; área hepática de maticez borrosa en general y casi imperceptible entre la línea media y la paraesternal derecha. Transcurridas dos horas de tratamiento general, con lo que habían mejorado sus condiciones, y tenida cuenta de la dureza abdominal, del borramiento del área hepática, que fundamentaba la posibilidad de ruptura visceral, hicimos una laparatomía exploradora que podría convertirse en terapéutica. No descubrimos lesión visceral, por lo que suturamos la pared. (Ayudante, Dr. Jorge O'cadiz A.)

Aunque la evolución postoperatoria fué normal, las condiciones del paciente continuaron muy precarias por varios meses (hasta febrero de 1941), especialmente por el intenso dolor pungitivo epigástrico, sin irradiaciones, sin relación con las comidas, en forma de crisis de más de una hora de duración, frecuentemente nocturnas (a las 2 de la mañana), con estados lipotímicos, facies abdominal y vómitos, que llegaban a aminorar el malestar; se lograba calmar el dolor con antiespasmódicos y sedantes enérgicos, con calor húmedo local y con la instintiva actitud "de gatillo." Había constipación de los tres tipos muy rebelde a los tratamientos más enérgicos, y en ocasiones vómitos fecaloides.

Con motivo de que éste cuadro dramático se prolongaba de modo desesperante, con períodos de poca menor intensidad, y de que no era evidente el diagnóstico, ya sea sólo ya con la opinión de especialistas gastroenterólogo (Dr. Fournier), neurólogo (Dr. Gamboa), laboratorista (Dr. Rojina), etc., se plantearon hipótesis diagnósticas tan diversas como crisis tabéticas, epilepsia, pitiatismo, helmintiasis, intoxicación, simulación, etc., hipótesis todas que se desvanecían como resultado de estudios de laboratorio o fracaso terapéutico, quedando en nuestra mente el diagnóstico de solaritis traumática, análoga a otra solaritis (tuberculosa) que hemos visto y tan rebelde como ésta a todo tratamiento antineurítico habitual (quimioterapio y vitaminoterapia, diatermia, etc.).

Con ésta idea, inspirados en la técnica de la anestesia de los esplácnicos, el 8 de febrero de 1941 nos atrevimos a hacer la alcoholización de los esplácnicos, previa procainización, obteniendo desde luego mejoría, que aumentó en pocos días hasta la curación, que incluyó no solo la desaparición de dolor, sino también de los vómitos, la constipación etc En pocos meses el paciente recuperó su corpulencia y desde entonces continúa enteramente apto a los más rudos trabajos de su empleo

CASO 2 —*Caso tipo en el que el dolor abdominal constituye la parte más importante de la enfermedad*

A. R., obrero sombrerero de 36 años de edad, sufría de úlcera del estómago desde hacía cuatro años, con la particularidad de que la gastralgia era muy intensa y solía ser seguida de crisis gástricas Los tratamientos producían solo resultados paliativos transitorios, hasta que por la extraordinaria intensidad del dolor decidimos hacer alcoholización de los esplácnicos, lo que efectuamos el 11 de octubre de 1942 Se obtuvo completo alivio del dolor y notable mejoría del síndrome ulceroso Un año después, el 4 de octubre de 1943, con motivo de operación abdominal por apendicitis, exploramos directamente el estómago, sin encontrar huellas de la úlcera El paciente continúa sano y vigoroso.

CASO 3 —*Caso tipo en que el dolor abdominal constituye solamente la parte más molesta*

N N, de 53 años de edad, fué operado de carcinoma incipiente del píloro, por pilorectomía, desgraciadamente sin bisturí eléctrico A los dos años la lesión se reprodujo con tal malignidad que toda reintervención operatoria fué descartada El dolor abdominal tuvo el aumento de intensidad diario que ya conocemos en estos casos, hasta que los analgésicos más activos se hicieron ineficaces a pesar de llegar a dosis de intoxicación Ante la tremenda tragedia del dolor cada vez más intenso, que obligaba y al uso de la morfina, propuse la alcoholización sin otros objetivos que suprimir el dolor, evitar la intoxicación terapéutica y prolongar la vida Con el Dr. Manuel A Manzanilla, cirujano dedicado a cirugía neurohormonal, se hizo el bloqueo, obteniéndose con ello, casi inmediatamente la supresión de dolor, lo que permitió al paciente abandonar la cama lleno de optimismo En pocos días quedó desintoxicado, tomando la apariencia transitoria de una resurrección.

CONCLUSIONES

La alcoholización del esplácnico tiene sus indicaciones y utilidad en el tratamiento de ciertas algias del mismo. Esta utilidad contrasta con el fracaso de la cirugía del vago para el mismo fin.

RESÚMEN

El autor recuerda las tentativas que se han hecho para abolir la sensibilidad y modificar la molitidad del estómago, por medio de la sección de fibras del vago, tentativas que hasta la fecha no han dado resultado favorable. Expone los éxitos que ha obtenido por medio de la alcoholización de los esplácnicos, ilustrando el trabajo con ejemplos típicos, primero de un caso de solaritis intensa y grave que curó totalmente; segundo de un caso de "ulcus rodens" que mejoró notablemente y tercero de un carcinoma gástrico inoperable al que se alivió del dolor y pudo prolongarse la vida del paciente.

SUMMARY

The author reports attempts to abolish the sensibility of the stomach and to modify its motility by means of section of the fibers of the vagus nerve. Up to the time of the report these attempts have not given favorable results. He describes the results which have been obtained by means of injection of alcohol into the splanchnic nerves and cites some typical examples. In a case of intense and severe inflammation of the solar plexus the patient was totally cured; in a case of rodent ulcer notice-

able improvement was obtained, and in a case of inoperable gastric carcinoma the patient was relieved of pain and life was prolonged.

RÉSUMÉ

L'auteur nous communique ses essais d'abolir la sensibilité de l'estomac et de modifier la motilité de cet organe en sectionnant les fibres du vagus. Jusqu'á présent ses expériments ne lui ont pas donné de résultats satisfaisants. Il nous décrit les résultats qu'il a obtenus au moyen d'injections d'alcool dans les nerfs splanchniques et nous relate plusieurs examples typiques. Dans un cas d'inflammation intense et sévère du plexus solaire, il obtint une guérison complète; dans un cas d'ulcère rodent, une amélioration notable fut obtenue; dans un cas de carcinome gastrique il fut possible de supprimer la douleur et de prolonger l'existence du malade.

СВОД

Автор докладывает попытки уничтожить чувствительность желудка и уменьшить его подвижность посредством сечения волокон блуждающего нерва. До времени этого доклада попытки эти благоприятных результатов не принесли. Он описывает результаты достигнутые вспрыскиванием алкоголя спланхнических нервов и дает типичные примеры. Первым был случай очень сильного воспаления solar plexus, который был вполне вылечен; вторым был случай проникающей язвы, в котором было достигнуто большое улучшение; и третьим был случай неоперационного рака желудка, в боли и продолжение жизни.

EL. DR. AMÉRICO FOSSATI

(Continuacion de la página 399)

el caudal de su extraordinaria experiencia en la discusión de los trabajos científicos. En el otoño de su vida, su inquietud científica fué un ejemplo para los cirujanos jóvenes. En 1944 ocupaba por segunda vez la Presidencia de la Sociedad. Allí lo alcanzó la muerte, a la que él esperó como había vivido: trabajando.

El Dr. Américo Fossati había formado un hogar en el que predicaba con el ejemplo. Sus hijos prolongan en sus vidas la hermosa realidad del padre. Y uno de ellos, cirujano como él, sigue las hondas huellas que marcara su progenitor.

Original Articles

Ten Years' Experience with the Surgical Treatment of Pulmonary Tuberculosis[1]

GOSTA LUNDH, M.D.
Chief Surgeon, District Hospital of Landskrona
LANDSKRONA, SWEDEN

GREATLY impressed by the high mortality attending total and subtotal paravertebral thoracoplasty of Sauerbruch, I tried during the first few years to arrive at a less severe method with the aid of plombage. At first I performed these operations more as a provisional plombage, combined with a partial thoracoplasty and a loosening of the upper portion of the lung. As so often happens, I quite undeservedly had the gratification of witnessing a substantial improvement in results rendering it possible to continue the surgical treatment, which had not at first been considered possible.

I must admit, however, that I have subsequently seldom observed a like satisfactory result among the 37 plombage operations I have performed. The reason for this has only recently occurred to me in connection with the technic I have hit upon for cases in which the indications are more or less dubious and the prognosis is difficult to assess, especially as regards the immediate mortality risk. Under these circumstances it has become clear that what I had done in the first case was nothing but a form of *thoracoplasty in stages, combined with a temporary plombage,* i.e., just the form of operative technic that Walter Schmidt has so zealously practiced at the sanatorium for the surgical treatment of pulmonary tuberculosis at Rohrbach, near Heidelberg. The difference is merely that I have worked from the back of the chest, whereas Schmidt consistently did his first stage from the front. After studies under Sauerbruch and others I adopted a much more *definite plombage,* which did not permit of a continuation of the operation, at any rate not without involving great difficulties for the surgeon and increased risks for the patient. *In other words, the greatest drawback of plombage, and that which makes the method inadvisable in this form, is the difficulty, not to say the impossibility, of continuing the collapse therapy if such should be found necessary.*

A follow-up examination of all our plombage cases was undertaken at the end of 1940, with the result indicated in the accompanying table. It should not be regarded as too discouraging, seeing that very many of the cases composing the material were prognostically unfavorable ones, the first period including several severe bilateral cases which,

TABLE

PLOMBAGE BY SAUERBRUCH-BAER'S TECHNIC

Number of patients	37	
Operative mortality (4 wks.)	0	
Total mortality	16	≃ 43,00 %
Of them, after thoracoplasty........	7	≃ 18,92 %
Tb.—negative patients, 1940	17	≃ 45,95 %
Of them, capable of work	14	≃ 38,00 %
Tb.—positive patients	4	≃ 10,81 %

according to our present experiences, ought never to have been operated on. For some of these patients it has meant increased hope of future health, and from this point of view I may be permitted to say that the operation was to some extent justifiable.

In fact, I am still convinced that in a certain limited number of cases a definite plombage is indicated, although as a way out of our difficulties for more general use it has disappointed our hopes, at all events in the form it has hitherto been practiced. The most important cause of this failure, it seems to me, is that *in those cases in which plombage has failed to achieve its object, there has been no means of removing the plug in a simple and safe way and continuing the operation.*

I can, however, acquiesce to some extent in what Kremer writes about plombage in *Kollapstherapie der Lungentuberkulose,* viz., "The pronounced favorable effect of the plombage operation in predominantly unilateral cirrhotic tuberculosis for which a thoracoplasty is not possible will always give it an assured place in collapse therapy. Moreover, it justifies the employment of an upper lobe plombage in many cases for which thoracoplasty is *per se* not contra-indicated. The slight risk and the smaller degree of disfigurement associated with it also speak in favor of plombage."

The methods published by Holst and Semb, of Oslo, and consisting essentially of an extra-fascial apicolysis undoubtedly aroused fresh hope in many, especially as the strict division of the operation into stages gave promise of reducing the mortality. These methods have proved a disappointment to me, possibly on account of deficient technic and insufficient experience with the procedure. Certain complications have become more accentuated after these measures, this applying more especially to that sometimes severe infection in the soft parts and in the extrapleural wound-cavity which does not seem to follow the usual laws of post-operative wound infection. Nor has the final collapse after these operations, when performed in stages, been so satisfactory as could be desired. In certain cases the result has been extremely good, this applying in particular to the rather early, mild, stage of this operation, which consists of plombage after resection of one, two, or at most three of the uppermost ribs on the ventral side. At the second stage six or seven ribs, at times even eight, are resected on the dorsal side, *i.e.,* sufficient to ensure that in this stage the scapula falls well in. This method possesses several advantages. Even at the first stage, thanks to the loosening of the lung and the insertion of the temporary plug, a compression is secured of the whole of the diseased area. The plug gives a powerful support to the front wall of the chest as well as to the mediastinum, this latter fact being of great value at the second stage. In the uncomplicated cases only a small number of ribs need be resected and the operation could possibly be performed in one stage, and for such cases this has become the operation of choice with us. In all the other cases, and especially the severe ones of upper lobe tuberculosis with extension to the opposite lung or with other complications, we have come more and more to prefer the form of thoracoplasty launched by Walter Schmidt. Both the operations are considerably lighter for the surgeon as well as for the patient. Since we have learned to master the technic fully, no serious complications have followed these operations. At first, probably acting under the influence of the general desire to secure an extensive apicolysis, I made excessive loosenings from the front wall of the chest and then had severe infections in the resulting cavity in one or two cases, possibly from cavity lesions. This has never subsequently occurred. I have been able in every way to confirm Walter Schmidt's view that in this form plombage does not occasion any insurmountable difficulties. Moreover, the plug can be taken out without difficulty at the least sign of infection of the wound-cavity or other complications. However, it ought never to be removed until after from ten to fifteen days, when it will have had time to perform its most important duty of giving adequate stability to the plug-bed. The wound usually healed by first intention, but even in those cases in which it healed by second intention this caused no troubles. One often gets a strong impression of the correctness of Walter Schmidt's statement to the effect that the plug is, as it were, fed forward at the right moment. Frequently the plug remains in position, and is then also allowed to do so until signs are noticed of a forward bulge of the front thoracic wall or other symptoms which make it evident that the plug is seeking a way out of its bed. In such cases its extraction is always very simple. It can be effected under local anesthesia or under light etherization. The whole plug is taken out, the cavity is washed as carefully as possible with some antiseptic, as rivanol or chloramine, and the wound is immediately closed. I have never seen any serious complications after this operation, even though the mouth of a fistula may occasionally remain open for a short time.

This method has undoubtedly enabled us to attain considerably better results in every respect than previously. We have not, practically speaking, to expect any primary operative mortality. In the first operation from the front we consider we have a test operation which, if we carefully study the post-operative course, gives us a fairly clear picture of the patient's vital powers to react to surgical operations in general as well as of the general healing tendency of the tuberculous process. We can make this operation as mild as we wish in each special case. We can limit it to the resection of a single rib, in such cases usually the second. In certain doubtful cases we can omit the temporary plombage, but this procedure has come increasingly less in question as our technic has improved. The first operation, which is at the same time a first stage and an important test operation, need never cause any really severe general effect. In cases of emergency it can be performed under narcosis, preferably induced with evipan sodium or tribromoethanol (avertin) with amylene hydrate, it being necessary to spare the patient shocks as far as possible.

Just as experience from other fields shows that the patient bears surgical operations considerably better when they are performed in several stages, so may we also expect here some form of increased resistance to the following and more extensive operations. One can perhaps speak of an acquired power to resist operations better. This manifests itself more especially in reduced general effect and reduced risk of infection, and is most evident if the second stage is performed within a time limit not too distant from the first. A clear indication of the most suitable time for the second stage can be obtained by setting up a curve of the course of the sedimentation rate.

A complication we have never had to deal with here is mediastinal flutter, as the inserted plug with its capsule, or the bed formed around it in those cases in which the plug has been taken out, contribute to the support of a possibly yielding mediastinum. Nor have we, thanks to these circumstances, ever experienced the unpleasantness of seeing a soft and yelding chest wall that oscillates backward and forward at every respiratory movement, sometimes bulging out like a hernia during coughing or straining.

Not without its value is undoubtedly the increased possibility plombage affords of securing a positive collapse of the parenchyma and stroma of the lung in the upper opening of the thorax. By this means, at least a partial solution has been gained of the problems posed by Perman in his anatomic investigations of the upper zone of the thorax. It is too early to make any precise statement of the permanent result, but we have a distinct impression that the percentage of definitively healed cavities is decidedly higher than in other forms of thoracoplasty employed by us. Not least of all in the prognostically unfavorable cases of "giant cavity" do we consider that, after many failures, we have found in this method a progressive surgical procedure that gives us good and lasting results even in grave and apparently quite hopeless cases. In some of these cases it is doubtless also necessary to attempt a loosening of the lung of the type practiced by Semb. We have tried to effect this by removing the plug on the ventral side before the second operation, sometimes doing this in the same stage, first taking out the plug and then doing a posterior thoracoplasty. No doubt the removal of the transverse processes recommended by Perman may also be of value for the avoidance of remnant cavity, and ought to be tried in suitable cases. As a standard method it is, in my opinion, unnecessary on the same grounds as applied to the apicolysis. The size and position of the cavity ought to be decisive in the individual case. Resection of the angulus scapulæ has also been tried by us in suitable cases, but we have not found it in any way advisable except on quite special indications.

One weighty reason for our going over more and more to Schmidt's method for all cases in which the outlook can be denoted as in the slightest measure dubious is that a long, bitter, and dearly purchased experience has brought us to realize our inability to prejudge with any certainty the powers of resistance to a surgical operation possessed by the different patients. Still less have we been able to predict with any certainty a given individual's vital powers of reaction, least of all in respect of the healing tendency of the tuberculous process. Here, we still have to depend largely upon our ability to judge each case by intuition. No one who has worked on these problems for any considerable time can fail to acknowledge how often we are mistaken.

It has often been our lot in Landskrona to receive two patients at a time. How often have we not tried to weigh the possibilities of the two individuals against each other, and how often have we not been compelled afterward to admit that we have been completely mistaken. The case from which we had expected least, perhaps nothing at all, has had a successful issue, and the case on which we had gone to work with enthusiasm has turned out a failure that has discouraged us for a considerable time. Faced with these facts, we cannot possibly fail to acknowledge the advantage of a method that enables us to proceed with our surgical treatment as cautiously as possible and with the least possible risk of immediate mortality, especially as the method would seem to offer equally good chances of attaining a definitively good result.

As a further safeguard against those failures which must inevitably occur when one widens one's field of indications beyond the usual limits, we have considered it expedient to divide our material, for the purpose of facilitating our determination of the indications for operation, into *four different groups* on a purely *a priori* basis of all we know of the patient, his previous history, and his present status. In this way it is easier at a post-operative examination to form a view of the immediate results. We have now set up a primary division into four groups of all the patients sent to us for operation from the sanatoria.

To Group I we refer all the cases coming in under the usual indications for collapse therapy. That is to say, all cases having unilateral, or practically speaking unilateral, cavernous phthisis with a distinct tendency to contraction of the lung. The cavity must not be overlarge, as this alone implies a considerably inferior prognosis for the case. Whether the limit can be set at the size of a pigeon's egg or a hen's egg, I will leave open, and this will always depend on the individual surgeon's temperament and experience. The patient must be in good general condition and not exhibit any complications from other organs, not be too young, too old, or too fat, and so on. A complicating tuberculosis of the larynx need not straightaway disqualify a patient from inclusion in Group I, even though it must be a premonitory sign to place him on the border to Group II. A complicating intestinal or renal tuberculosis, on the other hand, inevitably places the case outside the first group. In other words, in Group I are classed all patients for whom both *the phthisiologist and the surgeon consider they can positively advise an operation, and even consider they are justified in using a certain amount of personal persuasion to convince the patient that surgical measures ought to be taken.* This definition expresses perhaps more than anything else what we mean by Group I.

To Group II are referred those patients who have some complication in the form of bilateral tuberculous changes of the lungs, or changes in other organs, inferior general condition, albuminuria, adiposis, suspected cardiac changes, advanced age, etc., but for whom both lung specialist and surgeon, or perhaps only one of them, consider for some reason or other that operation can nevertheless be advised. In other words, the group is defined by the fact that *the positive initiative to the operation still comes from the physician or surgeon, or at least one of them, even if with a certain amount of doubt.* The patient ought then to be informed of this doubt.

To Group III are assigned all the cases in which these complications are present in such a high degree that neither of the professional advisers has been inclined to advise surgical operation. Of course, the matter may nevertheless have been discussed with the patient, and not so very infrequently it is the patient himself who has brought up the question of an operation, an increasingly common occurrence in our experience and one that will perhaps grow still more common. Hence in Group III are classed those cases in which *the responsible medical attendants consider after mature reflection that the patient should be given a chance, even though they are not positively disposed to advise the operation in question.*

Group IV should really not come in question in this discussion, for it comprises all those cases in which both the lung specialist and the surgeon are convinced that surgical operation is hopeless. Its inclusion here is chiefly due to the fact that among the cases sent in by the lung specialists there have been a number which careful examination and reconsideration have shown to be absolutely unsuitable for operation. That, in spite of this, some of these patients have been operated upon is solely due to the fact that purely social or humane considerations have prevailed. We were not able to resist the insistent wish of the patient and his relatives that an operation should in any case be tried, and it is obvious that when we have given way to the temptation to operate in such cases it has been a great relief to know that in our method we possess a means that in certain cases is only a compromise. We have satisfied the patient's wish that an attempt should be made. We have made this attempt as gentle as possible. In a case here and there we have failed; in others we have obtained such clear contra-indications after the first operation that we could not continue, and the patient has contented himself with that. This procedure has enabled us to meet the wishes of the patient and at the same time to escape that depressing effect which a primary failure always has, not least of all purely psychologically, on the other patients. But the most important thing of all: we have also been able to learn that in a number of these cases our fears have been insufficiently founded and our serious conception of the case exaggerated. As a result we have been able to restore to life and health not a few persons for whom under other conditions we should *à priori* have had to abandon all idea of any surgical operation.

Much might be said, of course, concerning the grounds of selection for this grouping of patients. It is undoubtedly subjective and uncertain, just as everything must be in these questions so long as we are not standing on firmer ground than we are at present. I believe, however, that the essential grounds of division will be readily followed and grasped by those engaged in these problems, even though the group-limits will naturally be drawn differently by different surgeons. During the past year we have had the pleasure of finding an understanding for this classification also on the part of the phthisiologists. The patients are now sent to us furnished with a group number, by means of which we are better able to gauge what the lung specialist thinks of the case.

Our method of working as outlined above follows two main lines: (1) the primary division of the cases into special groups on the basis of the indications and prognosis as regards operative surgery, and (2) the special technic adopted from Schmidt and carried further by dividing the operation into two or more stages, the first of which, performed as a test operation, is a minor anterior thoracoplasty with plombage. This procedure, we consider, has carried us a good bit along the road to the goal we have always had before us: to try to help as many as possible of those sufferers from pulmonary disease who cannot be cured in any other way. I frankly admit that these are emergency and circuitous measures, but so long as no surer method is at our disposal, we should accept them with gratitude and be glad to find that, broadly speaking, the result has been satisfactory. I am quite convinced that increased facilities for judging the different cases on a purely scientific basis will carry us still further. To this end, however, a change is desirable in that attitude of indifference and rejection hitherto displayed by so many phthisiologists and surgeons toward all attempts to take up for trial the lines of investigation recommended by Gaupotz and others. It appears to me to be already clearly established by the works published from Rohrbach that the result of such investigations offers an extremely good guide for surgical procedure.

RESULTS OF THE SURGICAL TREATMENT

In judging the operative results from a statistical point of view it is of great importance to take into consideration the character of the patient-material. Materials from different centers must frequently vary so widely that they cannot be statistically compared. Here, it seems to me, that the operative technic does not mean by far so much as the correct selection of cases. A higher or lower primary operative mortality may depend, of course, upon whether the operation has been performed in one or more stages, experience clearly showing that the one-stage procedure has a higher immediate mortality. Broadly viewed, however, especially when account is taken of the total mortality, it may doubtless be said that it is the character of the material rather than the operative technic which is of the greatest importance and which turns the scale. During the years I have had an opportunity of occupying myself with these operations, I have received the definite impression that the material was the worst possible.

In full agreement with the results published from the Malmö General Hospital, for the years 1913-1929, are those from my own cases of similar material during the first years, when, after working solely with plombage for some years, I went over to plastic operations. The cases are not many, only some 20 during five to six years, *i.e.*, four or five yearly. The technic followed was Sauerbruch's paravertebral, total or subtotal, in most cases performed in one stage. The primary operative mortality must be said to have been highly unsatisfactory, with 47 per cent primary and 58 per cent total mortality, which agrees with the Malmö figures calculated on the same basis, 43 and 68 per cent respectively. The percentage of definitive cures also agrees with that of the Malmö material. Against my 35 per cent healed with 23 per cent capable of working, stands Malmö's 32 per cent "healthy" patients.

Since I believe that I can definitely state that in the Malmö material it was not the surgical technic which caused this great loss of life, I believe I may also venture to assert the same regarding my own cases. The chief impression received from the investigation of these cases, however, is the same as that set forth above, and it is obvious that these bad experiences acted as a spur to fresh efforts to attain better results by other means. The first attempt in this direction was the adoption of Semb's improved technic and the strict performance of the operation in stages. Other dangers were encountered here, however, especially the increased risk of infection associated with the more or less thoroughly performed apicolysis. This applies in particular to the ticklish and dubious cases in which recourse to operation is only had with hesitation. The result of Semb's operation, however, proved to be considerably better than that of the operation of Sauerbruch. The number is of the same order, 23, during about the same period of time. The operative mortality is here considerably lower, or 17 per cent. The total mortality is 30 per cent, tb.-negative, up to 56.5 per cent, and capacity for work, likewise, 52.1 per cent.

In some earlier cases in which we could confidently content ourselves with a less extensive operation involving at most five ribs, we kept, as previously mentioned, to Semb's technic. more or less modified according to the special nature of the case. Otherwise, in view of more especially the incalculable risks of infection, we have gone over more and more to the previously described method launched by Walter Schmidt. Our material of such cases is at present as large as that of the other two groups together, or some 40 cases. The result is satisfactory insofar as the mortality has dropped still lower, the primary operative mortality amounting to 7.1 per cent and the total mortality to 17.9 per cent. On the other hand, the tb.-negative cases have not yet come up to more than 66 per cent, which can definitely be attributed to the fact that all the cases are too recent in time to be judged with certainty. This applies in a still higher measure to the question of the capacity for work of the patients, as they are at present receiving pension certificates for the first two to three years after the operation, a measure that may be debatable but is unavoidable under present conditions, since there are no other possibilities of getting them back to work.

A division of these patients into the groups I have already outlined brings out the good results still more clearly. Within Group I we have no primary deaths either in the material treated according to Semb's method or that treated according to Schmidt's. A group of this small size does not permit of any percentage computation, but the value and importance of a pre-grouping of the patients in this way are quite evident from a glance at the tables set forth (Tables 3-5). This progressive improvement in our results can scarcely be interpreted otherwise than as an indication that we are on the right path, and should I have opportunities in the future of working with these operations I can only conceive the possibility of widening the field of indications for Walter Schmidt's technic.

Intentionally we have not examined the results of our extrapleural pneumolysis by Schmidt's technic, as we think that too short a time has passed since we began to test this method, to warrant us in giving an opinion about it.

SUMMARY

The author recommends thoracoplasty in stages combined with temporary "plombage," as described by Walter Schmidt, as the method of choice. The first stage consists of a minor anterior thoracoplasty with plombage, serving at the same time as a test operation for the patient's general resistance. The second stage consists of a dorsal resection of from six to eight ribs. In the author's experience this method gives on the whole the best results. As a safeguard against failures the author divides all the patients referred into four groups: Group I embraces those cases in which both phthisiologist and surgeon advise surgery strongly, grading down to Group 4, where surgery is inadvisable both from the surgical and medical points of view. The author gives his results in 56 cases operated on during the period 1932-1941, as compared to other methods. Total mortality: 17.9 per cent—this is definitely better than in Sauerbruch's or Semb's operation. TB.-negative cases: 66 per cent (only slightly better than with other procedures but too recent to yield definite results).

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SUMARIO

El Autor recomienda la Toracoplastia en periodos combinados con "plombage," como es descrito por Walter Schmidt, como metodo de seleccion. La primera intervencion consiste en una pequeña Toracoplastia anterior con "plombage," que sirve al mismo tiempo como ensayo operatorio de la resistencia general del enfermo. La segunda operacion consiste de una reseccion dorsal de seis á ocho costillas. En la experiencia del autor este metodo ó procedimiento dá, por todo, los mejores resultados.

Para evitar falta de éxito y como salvaguardia, el autor divide los pacientes que le son referidos en consulta, en cuatro grupos. El primer grupo comprende los casos en los cuales el Tisiologista y el Cirujano aconsejan tratamiento quirurgico forzosamente, graduando hacia abajo, hasta el grupo quarto, en los cuales la cirugia es desventajosa, del punto de vista quirurgico y médico.

El autor da sus resultados en 56 casos operados durante el preiodo 1932–1941, en comparacion con otros métodos. La mortalidad total 17.9 por ciento, que es definitivamente mejor que se obtiene con el Sauerbruch, ó el Sembe procedimiento. T.B. casos con 66%, solo es pequeña ventaja sobre otros procedimientos, y aun muy reciente para ofrecer resultados decisivos.

RÉSUMÉ

L'auteur recommande la thoracoplastie en étapes avec "plombage" temporaire ainsi que le décrit Walter Schmidt. Le premier temps consiste en une thoracoplastie mineure avec plombage et sert en même temps à déterminer la résistance du malade. Le second temps entraîne une résection dorsale de six à huit côté. D'après l'auteur, cette méthode dans son ensemble donne les meilleurs résultats. L'auteur classifie tous les cas en quatre groupes. Le premier groupe comprend tous les cas où la nécessité de l'opération est demandée par le physiologiste et par le chirurgien. Le quatrième groupe renferme les cas où l'opinion diffère sur l'urgence de l'opération. L'auteur rapporte 56 cas d'opérations durant la période de 1932 à 1941, avec une mortalité totale de 17.9 pour cent. Cela compare très favorablement avec les opérations de Sauerbruch et de Semb. Dans les cas tuberculeux 66 pour cent des résultats ne sont pas beaucoup supérieurs à ceux obtenus par les autres méthodes.

Solid Tumors of the Ovary

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THE ovary is unique in its capacity to develop tumors. No other organ gives rise to a greater variety of neoplasms than the ovary. These tumors are not limited to any age group, and may occur in infants, adolescent girls, children, mature women, and the aged. They may contain any human tissue, from clear fluid to hair, teeth or skin. Some of these tumors are frequently benign, and others are viciously malignant. These tumors are also unique in their symptomatic effect. Some attain enormous size with no associated symptoms, so that the patient thinks merely that she is getting fat. One group of ovarian tumors cause sexual precocity, intensify female traits, hasten development of sexual maturity in the young child and rejuvenate old women. In contradistinction, there is a group of ovarian tumors which cause a reversal of sexual traits, namely, masculinize and defeminize women, cause atrophy of the breasts and reproductive organs, stop menstruation, change facial appearances and cause deepening of the voice and a masculine distribution of hair. Eighty per cent of ovarian tumors are cystic, and 20 per cent are solid. Sixty-five per cent of the solid tumors are malignant.

In this paper I shall summarize information concerning the solid tumors of the ovary. These include:

(1) Brenner tumor
(2) Granulosa cell tumor
(3) Theca tumor
(4) Arrhenoblastoma
(5) Dysgerminoma
(6) Krukenberg tumor
(7) Teratoma
(8) Fibroma
(9) Sarcoma
(10) Adenocarcinoma

BRENNER TUMOR

Three hypotheses have been advanced in an effort to explain the origin of the Brenner tumor. Meyer, who found in the serosa of fallopian tubes tiny nests of "Brenner cells," favored the hypothesis of mullerian metaplasia. Schiller postulated a dislocation of epithelium from the primary urogenital connection. The third hypothesis, namely, that the tumor arises through a one-sided development in a teratoma, is based on its frequent association with pseudomucinous cystadenomas.

In 1908 Brenner described three solid ovarian neoplasms occurring in elderly women. Grossly, his specimens resembled fibromas, but microscopically he found scattered islands of cells resembling squamous epithelial cells in a dense stroma of connective tissue. He called the tumor "oophoroma folliculare," but it has since come to be known by the name of this early investigator.

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Following this original contribution, isolated reports of cases were added. In 1931 Robert Meyer was able to bring to 23 the number of reported examples, a number which had grown to 45 when Bland and Goldstein reported their case in 1935. The literature now contains approximately 70 examples of this newcomer in gynecology.

The Brenner tumor is almost always unilateral. Grossly, it resembles a fibroma, being whitish, and the solid variety is dense and hard. Another type of this tumor appears as a solid nodule arising in the wall of a cyst.

Microscopically, the picture is uniform and consists of islands of squamous-like epithelial cells in a dense stroma of fibrous tissue. The peripheral rows of these cells are frequently arranged in palisades. Some of the islands are cystic with an inner lining of columnar mucus-producing cells. Mitotic figures are not observed.

The clinical features of a Brenner tumor are those of a slowly growing pelvic neoplasm with none of the usual clinical features of a malignant tumor. Seventy per cent of the neoplasms occur after the menopause. These tumors have no hormonal influence.

The tumor is to be distinguished from granulosa cell neoplasm and from metastatic squamous cell epithelioma. This distinction is simply made with the Galantha stain for mucus.

GRANULOSA CELL TUMOR

The concept of Robert Meyer, that this tumor arose from granulosa cell rests in the ovarian hilus, is no longer tenable in its original form. Recent experiments by Butterworth have shown that granulosa cell tumors can be produced in mature female mice by the use of roentgen rays. These tumors, histologically and functionally entirely analogous to the granulosa cell tumors of women, appear to spring directly from degenerating follicular epithelium.

Although the granulosa cell neoplasm of the ovary had been described as early as 1855, the tumor did not receive the attention it now commands until Robert Meyer's contribution in 1915. Since that time, however, Robinson, King, Novak, Te Linde, Schiller, Neumann and other investigators have made substantial additions to this gynecologic entity, more than 300 cases of which have been reported.

Clinically, 60 per cent of granulosa cell tumors occur after the menopause, 30 per cent occur between puberty and the climacterium, and 5 to 10 per cent occur before adolescence. In childhood, such a tumor gives rise to precocious menstruation with early sexual and somatic development. During the period of sexual maturity it produces either amenorrhea per se or amenorrhea followed by profuse and continued menses. After the menopause, a granulosa cell neoplasm gives rise to a periodic pseudomenstrual type of bleeding in 90 per cent of the cases.

The basis for these symptoms is to be found in the tremendous quantities of estrogen elaborated by these tumors in all age groups. The hormone can be demonstrated in the blood and urine of patients who have a granulosa cell neoplasm and in almost unbelievable amounts in extracts of tumor tissue. The presence of estrogenic substance of granulosa cell tumor has been proved by the injection of extracts of the tumor into castrated rodents, which then show the usual vaginal cornification. Its action on the uterus is the production of myohyperplasia, with a thick, boggy, proliferative type of endometrium often containing cysts.

Pathologically, 90 per cent of granulosa cell tumors are unilateral, 90 per cent are solid and 90 per cent are of a relatively low grade of malignancy. They vary in size from the pinhead nodules described by Te Linde to large masses weighing as much as 34 pounds (15.3 Kg.), as in a case described by Dockerty and MacCarty. They appear to be well encapsulated. The cut surface has the homogeneous, granular appearance of liver sausage. Microscopically, there are the cylindroid, folliculoid and diffuse types of cellular pattern, and they may be found mixed on the same slide.

THECA CELL TUMOR

There are three theories to explain the origin of the theca cell tumor: (1) This neoplasm is derived from the ovarian stroma and is regarded as a luteinized fibroma; (2) the tumor is a luteinized granulosa cell tumor; (3) the growth arises from theca cells and represents a separate entity. Experimental evidence tends to support the third view.

The clinical features usually associated with theca cell tumors resemble closely those found in association with granulosa cell tumors of the ovary. More than 80 per cent of the neoplasms occur after the menopause and produce vaginal bleeding, which may or may not be periodic. The tumors reported among patients of the younger age groups have usually been associated with amenorrhea or with menometrorrhagia. The clinical picture is usually not so uniform as it is in the presence of a granulosa cell tumor, and some theca cell tumors apparently produce no menstrual abnormalities. As with granulosa cell neoplasms, the symptoms are caused by the secretion of estrogen by the cells of the ovarian neoplasm, as demonstrated by assay of tumor tissue.

The theca cell tumors are of a low grade of malignancy.

Pathologically, there are certain gross and microscopic features peculiar to all neoplasms of this theca cell group. The tumors are fibrous, solid, usually encapsulated and of canary yellow color. On section, the "liver sausage" consistency of granulosa cell tumors is lacking and, except for the yellow color, a diagnosis of fibroma would seem justified on gross inspection. A thin "rind" of ovarian tissue can usually be shelled from the surface of the tumor in the form of a smooth "capsule".

Histologically, the features are the predominance of plump, fusiform cells with vacuolated cytoplasm and oval nuclei. An epithelioid appearance is sometimes assumed. Intracellular fibrils are often abundant. The tumor cells and the interstitial substance both tend to undergo extensive hyalinization. Stains for lipid reveal the presence of fatty droplets within the cytoplasm of the tumor cells and to a lesser extent in the intercellular substance.

ARRHENOBLASTOMA

The arrhenoblastoma is an ovarian solid tumor marked by masculinizing activity.

As to the origin of this tumor, there are two schools of thought. Meyer, Goodhall, Novak and others believe that the growth arises from embryonic rests in the ovarian hilus and that these rests differentiate along male lines. Others are of the opinion that the tumor represents a one-sided development of a teratoma.

In 1905, Pick, of Germany, first described a peculiar ovarian tumor composed of epithelial elements in tubular arrangement different from any structures found in a normal ovary but bearing a strong resemblance to adenomatous tissue found and described in connection with the gonads of male pseudohermaphrodites This he called a testicular tubular adenoma Since that time various investigators have reported similar examples Notably, Meyer, in an extensive study, found 17 instances of ovarian tumor of similar nature associated frequently with a peculiar symptom complex consisting of sterility, amenorrhea, hirsutism with a male distribution of hair, atrophy of the breasts, changes in the voice, hypertrophy of the clitoris, and the presence of an ovarian tumor To this he gave the name "arrhenoblastoma" (make like a male)

Clinically, the presence of a palpable pelvic tumor associated with the masculinizing syndrome must make one consider also basophilic pituitary adenoma, pinealoma and an adrenal cortical tumor

Grossly, the appearance of arrhenoblastoma is characteristic It is a solid, multicentric nodule which presents a smooth, grayish surface without adhesions and without invasion by tumor cells Microscopically, the epithelial elements are arranged in one of three different patterns (1) an alveolar or tubular pattern, (2) solid cords or anastomosing strands, the so called intermediate group, (3) a sarcomatoid arrangement Mitotic figures are infrequent, and this, together with the degree of differentiation, indicates a low grade of malignancy Lipid globules within the cytoplasm of the cells are arranged in a fashion resembling that of the interstitial cells of the testes These are said to produce the secondary sex characteristics through the elaboration of the male sex hormone

The arrhenoblastoma is usually a malignant tumor For such growths in young persons conservative treatment is indicated, as 80 per cent of the tumors are benign For arrhenoblastomas in older women, a radical surgical extirpation should be done

DYSGERMINOMA

Dysgerminomas account for less than 20 per cent of malignant ovarian tumors The tendency of this tumor to occur in patients with sexual maldevelopment is its most striking clinical feature

The existence of a type of solid ovarian neoplasm with histologic features of undoubted malignancy and the clinical history of a more benign lesion has long been recognized That this neoplasm occurred in young persons, that it was frequently bilateral and that it was often associated with genital hypoplasia were early observations of prime importance The close resemblance of the cellular structure of the growth to that of the fetal gonad before the stage of sexual differentiation was the observation of Robert Meyer, who proposed the name "dysgerminoma" for this neutral type of tumor The literature on this interesting neoplasm consists of reports of approximately 200 examples described under a range of terminology from "seminoma ovarii" (Chevassau) to "embryonal carcinoma "

Ovarian dysgerminoma has its "male" counterpart in the seminoma testis but runs a much less malignant course than the latter In addition, there are certain age differences, dysgerminoma occurring usually before the age of 20 years and seminoma after the age of 20 Among pseudohermaphrodites of both sexes, the tumor is of relatively high incidence It produces no hormones and hence no characteristic menstrual or other secondary sexual disturbances However, the syndrome in a young woman who presents a pelvic tumor, pseudohermaphroditism or poorly developed genitalia, should make one think of the possibility of dysgerminoma.

Some of the tumors of this type are excessively malignant and others possibly benign. Dr. Seegar was unable to determine the degree of clinical malignancy by the histologic picture of the number of mitoses. In view of this, clinical observations remain the most trustworthy, and the tumor is to be considered malignant until it is proved benign.

Dysgerminoma occurs bilaterally in about 35 per cent of cases. Grossly, the neoplasms are nearly all of peculiar brainlike consistency with broad zones of necrosis and hemorrhage. Microscopically, the stromal reaction with lymphocytes and foreign body giant cells is almost pathognomonic. The tumor cells themselves are large and round, with hyperchromatic nuclei, large nucleoli and many mitotic figures. A complete lack of differentiation is outstanding, and the grade of malignancy is always 4. This probably accounts for the observation of Schiller and others that the tumor is extremely radiosensitive.

KRUKENBURG TUMOR

Although the so-called Krukenberg tumor has been the subject of much study and controversy, no one has yet given a better description of this tumor than he. According to his description, grossly, the tumor was of moderate size; it was nodular, yet it possessed a smooth surface. Adhesions were usually absent, but ascites was often found. The tumor was usually bilateral and was solid. In most cases the general form of the normal ovary was maintained. The cut surface had a myxomatous appearance. Microscopically, Krukenberg described "signet ring" cells surrounded by a fibrous stroma. He recognized the picture as one of undoubted malignancy, and considered the lesion as primary in the ovaries. He classified it among the sarcomas, but also suggested the possibility of its origin from epithelial cells.

The Krukenberg tumor was first called a sarcoma. Krukenberg carcinoma may be secondary to a variety of tumors, and not all ovarian carcinomas that are secondary to the alimentary tract are Krukenberg tumors. Probably not more than 25 per cent of all such secondary growths are of the Krukenberg type.

Important contributions by other writers have shown it to be of epithelial origin, and all workers have agreed on the secondary nature of the lesion. However, there is no general agreement as to what constitutes a Krukenberg tumor, how metastasis occurs, whether it is possible to distinguish a primary ovarian carcinoma from a Krukenberg tumor, or how the lesion should be treated.

TERATOMA

Teratoma of the ovary is defined as a tumor comprised of tissue elements derived from all three germ layers. The cystic teratoma is not uncommon, but the solid teratoma is rare and malignant.

These tumors are apparently due to the separation of a part of the ovum in the blastomere stage. The younger the ovum is, the more likely the undifferentiation and capability of producing more than one tissue. The older the ovum is, the more specialized the cells are and the less capable of producing more than one tissue.

Pathologically, ovarian teratomas are highly malignant. Like ovarian adenocarcinomas, the solid types probably begin with cellular proliferation in previously cystic growths. Growth is rapid, as indicated by a short duration of symptoms, and metastasis is often extensive at the time of operation Grossly, various tissues may be recognized characteristically Almost every tissue in the body has been reported present Thyroid tissue has been noted This may be hyperplastic, giving evidence of clinical hyperthyroidism Growths containing such tissue are called "strumal" tumors Teeth have sometimes been present, and brain tissue has been found There has been placental tissue giving a positive Ascheim Zondek reaction Sarcoma, adenocarcinoma, squamous cell epithelioma, fibrosarcoma and chrondroma have been variously reported

FIBROMA

Connective tissue tumors, fibroma and sarcoma, constitute about 5 per cent of all ovarian neoplasms They may occur at any age Fibroma is usually found in mature women, and is rarely larger than the size of a cocoanut The origin of fibroma is uncertain, according to Aschoff, the points of origin being (1) from an inflammatory exudate on the surface of the ovary, (2) from a corpus albicans, (3) from a corpus luteum, (4) from the stroma of the ovary, (5) from the capsule of the ovary, (6) from connective tissue organization following hemorrhage and (7) from the walls of blood vessels

Since fibroma must develop from connective tissue, and connective tissue can be found in any of the sites just listed, this tumor probably develops from one or any of these locations

It may occur in three forms the diffuse, in which the whole ovary is involved, the circumscribed nodule, in which a portion of the ovary is involved, or the pedunculated type, which is rare

The symptoms are not definite, the most common being pain due to pressure from the tumor and ascites There is an increased size of the abdomen if the tumor has become large, backache, urinary symptoms, constipation and menstrual disturbances may be present As to the physical manifestations, the growth is a pelvic tumor, unilateral in 90 per cent of cases Ascites associated with a massive growth is present in 10 per cent of cases The presence of fluid in the chest has been demonstrated by Meigs, of Boston, who stated that 27 cases have been reported thus far in the literature This presence of fluid in the chest as well as in the abdomen is important, because such patients do not necessarily have a malignant tumor that has metastasized to the chest Meigs has suggested that in such cases chest taps be done and that after centrifuging of the fluid the cells should be examined for evidence of malignancy and if this is absent the possibility of fibroma of the ovary should be considered

Grossly, the tumor may vary from the size of a pea to the size of a man's head, the diffuse type may be spherical, ovoid or of kidney shape, the consistency is firm Torsion of the pedicle is a frequent complication, and adhesions may be present Usually there is a firm capsule, and on section the tumors show white whirling areas of connective tissue bundles Secondary changes, chiefly due to circulatory disturbances, occur in about one half of the cases—edema, hemorrhage with softening, cavity formation and areas of calcification are frequent

The microscopic appearance is variable One sees mostly bundles of connective tissue, wavy or straight The chief cell is the spindle cell The nuclei vary greatly in size and number Mitoses are almost entirely wanting in the benign growths, and their presence suggests malignancy Bundles of smooth muscle fibers are often found

The treatment is excision. The prognosis is excellent. Malignancy in fibrosarcoma is rare and of a low grade.

SARCOMA

Sarcoma is mesenchymal in origin, but the parent tissue is a matter of conjecture, the possibilities being (1) a preexisting fibroma, (2) the stroma of the ovary, (3) the walls of the blood vessels and (4) one-sided development in a teratoma.

The diagnosis of sarcoma of the ovary is more difficult than that of fibroma, because the tumor is softer and may be confused with other ovarian malignant tumors. It is distinguished from carcinoma by the difference in age, as carcinoma usually involves older women. Particularly if one finds a solid tumor with free fluid and evidence of malignancy, loss of weight, anemia and metastasis, one should think of sarcoma.

Pathologically, the appearance of sarcoma varies. It may be redddish or brownish, and much more vascular than fibroma. Secondary flat growths in the pelvis or throughout the peritoneal cavity, in the intestines and in the omentum, together with bloody fluid, may be present.

Histologically, the tumor presents a highly anaplastic growth. Sarcoma is among the most malignant of ovarian tumors. Metastasis and direct extension are the common modes of extension. Cures are rare. The treatment consists of early removal and postoperative irradiation.

ADENOCARCINOMA

Adenocarcinoma is one of the most common forms of solid tumor of the ovary. Like epidermoid carcinoma, it may present different degrees of differentiation, namely, a marked resemblance to endometrial carcinoma. Some adenocarcinomas are of a papillary pattern and some nonpapillary. Medullary carcinoma, carcinoma simplex, scirrhous carcinoma, alveolar carcinoma, and plexiform carcinoma are all varieties of the different tissue patterns occurring in the solid carcinomas of the ovary.

The size of the solid ovarian carcinoma is variable. Usually it gives rise to symptoms which call for treatment before the growth has reached more than a moderate size. As a rule the external surface is smooth, but it may present nodular or bosslike thickening. When one cuts into the tumor the surface may be seen to be gray with a brainlike consistency, and not infrequently there are irregular cavities caused by extensive necrosis. In a few growths of the scirrhous types, the consistency may be firm and fibrous. As the disease advances there is an increased tendency to involve both ovaries.

The clinical manifestations of adenocarcinoma are unfortunately late, as the onset of the disease is insidious. The presence of a mass in the lower part of the abdomen is usually first felt by the patient herself. Moderate heaviness or occasional pain may be noted, but it is usually absent. The same situation exists as to menstrual disorders. In postmenopausal cases slight bleeding may be noticed. Ascites is a relative accompaniment of ovarian malignant growths. The later course is characterized by weakness, loss of weight, recurring ascites, anemia and gastrointestinal disturbances.

Treatment is surgical, with postoperative employment of deep roentgen ray therapy.

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RESUMEN

Los autores hacen, de un modo sistemático y conciso, una descripción clínica y anatomopatológica de cada uno de los tipos de tumores sólidos del ovario: (1) tumor de Brenner; (2) tumor de células granulosas; (3) tumor de células de la teca; (4) arrhenoblastoma; (5) disgerminoma; (6) tumor de Krukenberg; (7) teratoma; (8) fibroma; (9) sarcoma y (10) adenocarcinoma.

RÉSUMÉ

Les auteurs nous donnent une description concise et systématique, clinique et pathologique, des différents néoplasmes solides de l'ovaire: (1) Brenner tumeur; (2) tumeur à cellules granuleuses; (3) tumeur thécale; (4) arrhénoblastome; (5) dysgerminome; (6) tumeur de Krukenberg; (7) tératome; (8) fibrome; (9) sarcome, et (10) adénocarcinome.

СВОД

Авторы дают систематическое и точное описание каждого типа массивных опухолей яичника· 1 опухоль Бреннера; 2 гранулозно-клеточная опухоль, 3. опухоль оболочки, 4 арренобластома; 5 дисгерминома, 6 опухоль Крукенберга; 7. тератома, 8 фиброма, 9. саркома, и 10 адэнокарцинома

A New Operative Technic for Cysts of the Lung and for Chronic Spontaneous Pneumothorax*

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THE two conditions whose surgical treatment is the topic of this paper are linked together by a similar mechanical peculiarity. They both communicate with the bronchial tree.

There is no time to go into the etiology of the chronic spontaneous pneumothorax, which can be a very obstinate pathologic condition. Its most common cause is the rupture of localized emphysematous tissue, usually at the apex of the lung. This circumscribed emphysema is due to scar formation following a healed tuberculous lesion. The reason why the rupture in many cases does not heal by itself or has a tendency to recur can be seen in the presence of pleural adhesions which do not permit closure of the opening.

In the cases where localized adhesions were evidently the reason for the maintenance of the opening in the lung tissue, pleurolysis should be performed in order to assure complete collapse of the lung. If that is done by open intercostal approach, one easily succeeds in identifying the rupture by administering intratracheal pressure respiration.

Then the gap in the lung tissue can be closed in accordance with well-established surgical principles.

This sort of closure was employed in seven cases; in two of them no opening in the lung tissue could be demonstrated. Nevertheless, inversion of the whole suspected area was done.

There were no complications after these rather small interventions. The reëxpansion of the lung which had been in a state of collapse for from one and a half to six years took four to twelve weeks. None of the cases showed a recurrence in a follow-up from one-half to five years. In three cases fluid appeared postoperatively in the corresponding pleural space. This was resorbed in due time.

When a girl of 12 years was referred to us for surgical treatment of an enormous air cyst of the right lung, the experiences with treatment of spontaneous pneumothorax came to mind. The diagnosis was not absolutely clear; spontaneous pressure pneumothorax due to rupture of a lung cyst could not be ruled out. In view of the greatly reduced respiratory surface no attempt was made to ascertain the diagnosis by means of bronchography.

Likewise we abstained from aspiration of air, though the heart was markedly displaced, since we were afraid to produce a pneumothorax by tapping the cyst.

The treatment of larger air cysts of the lung, though strongly indicated, because of the danger of rupture or infection is, as Wood puts it, "unsatisfactory to say the least." Of course, there is the radical procedure of lobectomy or pneumonectomy which has been accepted by most surgeons as the only successful method. Though lobectomy and pneumonectomy are nowadays well-established operations with a comparatively low mortality, it is our feeling that the indications for these interventions have been overstepped. That is particularly true for pneumonectomy. Loss of respiratory surface after that operation, as well as shrinking of the corresponding thoracic wall and shifting of the heart, involves a certain degree of disability to which we should yield only under the impact of sheer necessity.

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For benign lesions any successful conservative operation is preferable.

Enucleation of the cyst as a rule is not feasible, since air cysts do not possess a well defined wall.

There are many other procedures recommended and tried, all of them with unsatisfactory results.

It was thought that a procedure along the lines followed in the treatment of chronic spontaneous pneumothorax would be feasible.

OPERATIVE PROCEDURE

Under intratracheal cyclopropane anesthesia, the right thoracic cavity was entered through the fourth intercostal space between the posterior axillary and the midclavicular lines. After insertion of the rib retractor a rather impressive picture came into view. The presenting air cyst resembled a large ovarian cyst. In exploring the right hilus it became evident that the mediastinal folds were absent. There was a broad communication between the right and left thoracic cavity, a part of the cyst occupying the dome of the left thoracic space. The cyst was tapped and the air removed; thus a temporary collapse was obtained. It was only now that normal lung tissue in the apex and in the lower lobe could be exposed. Within two minutes the cyst filled again, the air being under considerable pressure. The procedure now used consisted of the following steps:

At first a cruciate incision of the cortical cover of the cyst was performed, the longitudinal incision being 30 cm. in length.

The inner surface of the cyst revealed a trabecular structure due to large vessels radiating from the hilus. No signs of epithelial cover were evident. By applying considerable intratracheal pressure, one large opening and a smaller opening could be identified, both openings communicating with the trachea, the main bronchus apparently being absent. Two small bronchi, one leading to the normal remainder of the upper lobe and the other leading to the remainder of the lower lobe, could be demonstrated.

The next step consisted of closure of the communication between cyst and trachea by purse-string sutures. Care had to be taken not to perforate one of the large vessels. Adequacy of the closure was tested by intratracheal pressure administered by the anesthetist.

The third step consisted of a plication of the inner wall of the sac by several infolding sutures. These are placed between the branches of the vessels and parallel to them.

The next step was a tight inversion of the contracted wall so that plugging of the purse-string sutures could be obtained.

In the last step the tissue plug was buried under normal lung tissue by seroserous sutures uniting normal lung tissue of upper and lower lobe.

At completion of the procedure the remainder of the right lung did not fill more than one-third of the right thoracic space, because the atelectasis of the normal lung tissue could not be overcome by forcible inflation.

The incision of the chest wall was closed in four layers.

Postoperative treatment was the same as after lobectomy. The oxygen tent was dispensed with on the second postoperative day.

Recovery was uneventful.

The first x-ray picture, taken on the tenth postoperative day, revealed a fair-sized pneumothorax, the heart being in normal position. A dense round shadow, corresponding to the plicated sac of the cyst, was visible.

Three months after operation the right thoracic cavity was filled by normal lung tissue, the round shadow close to the hilus having the same size and density as in the last picture. The dome of the left thoracic cavity formerly occupied by the left side extension of the cyst showed normal lung structure.

Follow-up for four months did not reveal any changes in the x-rays taken in a month's interval.

The general condition of the child has shown continuous improvement. To date she has gained 25 pounds.

CONCLUSION

There is reason to believe that the endorráphy, as described above, has proved to be a rational procedure in the surgical treatment of air cysts of the lung.

SUMMARY

Etiology of chronic spontaneous pneumothorax is discussed and a new operative technic for cysts of the lungs and for chronic spontaneous pneumothorax is presented. It consists of the following steps: (1) A cruciate incision of the cortical cover of the cyst was performed. (2) Communication between cyst and trachea was closed by purse-string sutures. (3) The inner wall of the sac was plicated by infolding sutures placed between and parallel to the branches of the vessels. (4) The contracted wall was tightly inverted to obtain plugging of the purse-string sutures. (5) The tissue plug was buried under normal lung tissues by sero-serous sutures uniting normal lung tissue of upper and lower lobe. Postoperative treatment did not differ from that of lobectomy.

SUMARIO

El autor discute la etiología del neumotorax espontáneo crónico y una nueva técnica operatoria para ciste-pulmonar y para neumotorax crónico espontáneo y consiste en los procedimientos siguientes: (1) Una incisión cruciforme de la cubierta cortical del ciste. (2) La communicación entre el ciste y la tráquea se cierra por una sutura a cordón de bolsa. (3) La pared interna del saco se dobla por medio de suturas que encierran el saco paralelamente a las ramificaciones vasculares. (4) La pared contraída se invierte firmemente para tamponear las suturas a cordón de saco. (5) El tapón de tejidos se cubre con parenquima pulmonar por suturas sero-serosas, uniendo el tejido normal pulmonar del lóbulo superior e inferior. El tratamiento postoperatorio no varia del empleado en la lobectomía.

RÉSUMÉ

L'auteur discute l'étiologie du pneumothorax spontané et présente une nouvelle technique opératoire pour les kystes du poumon et pour les pneumothorax chronique: Voici les différents temps de l'opération: (1) incision cruciale de l'enveloppe du kyste; (2) fermeture de la communication entre le kyste et la trachée par une suture en bourse: (3) la paroi interne du sac est oblitéré par l'insertion de sutures placées parallèlement aux vaisseaux; (4) inversion complète de la paroi du sac afin d'obtenir un tamponnement complet de la suture en bourse; (5) le bouchon est enfoui dans du tissu pulmonaire normal par des sutures séro-séreuses unissant le tissu normal des lobes supérieur et inféieur. Le traitment postopératoire ne diffère pas de celui employé pour la lobectomie.

Sano Tissue Glue Skin Grafting

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THE standard procedure of Dr. M E Sano, of Philadelphia, Pa, was attempted, in which 1 mg of heparin plus 1 cc of Tyrode solution plus 5 cc of the patient's blood were mixed and then centrifuged The plasma preparation was then painted with a camel's hair brush on the recipient area The cell extract plus 0 5 cc of Tyrode solution was painted on the under surface of the graft Both solutions were prepared under sterile conditions

The Sano method of skin grafting was tried in the following cases

CASE 1—A captain in the tank corps received a shrapnel wound of the right ilium, which penetrated that bone and produced numerous perforations of the small intestine and colon The shrapnel was lodged near the fifth lumbar vertebra The entrance of the shrapnel left a large defect in the skin over the right ilium A draining sinus resulted, which drained approximately three to four months as the shrapnel was not removed It was eventually removed about three to four weeks before my associates and I saw him, when he was transferred to our service The cutaneous defect was about 3 inches (7 5 cm) in depth, and movement of the vertebral column would produce a narrowing of the U shaped opening A thin or full skin graft would have been difficult, hence this was an ideal opportunity to try the Sano method of skin grafting The coagulum was applied to the graft and the recipient area and the U shaped space was lightly packed with waste In three days, the waste was removed and the graft was examined No hemorrhages, blebs or moving of the graft had occurred The result was perfect

CASE 2—A private was transferred to our service after he had been to the general surgery service for treatment of an abscess in the right axilla, which was drained and curetted He was given penicillin prior to the operation, which gave him no relief from his infection The abscess was apparently idiopathic When he was seen by my associates and me, no infection was present, as the wound was granulating and the depression was filling in with granulation tissue With no skin grafting, the wound would result in cicatrix with adduction of the right arm and limitation of motion of the arm The Sano method was tried An area of about 8 by 8 cm was removed with the dermatome, and prepared by painting with the plasma mixture with a camel's hair brush No sutures were utilized, and waste was used for some compression owing to an unusual contour of the recipient area of the axilla In twenty four hours the graft was examined for movement, but none was found The arm was placed in abduction, and three days later the waste was removed and the graft was examined Three small necrotic areas had appeared in the center of the skin In a few days the necrotic areas were replaced with Thiersch grafts from the arm The edges of the graft were in excellent condition When last seen, the axillary defect was filling more so since the skin grafting, and it appeared to be almost normal

CASE 3—A master sergeant in the communication service had received an extensive second degree burn of the back, due to a live wire of high tension The cicatrix over the right scapula was removed and replaced by a thin skin graft by the Sano method The usual procedure was applied with bismuth tribromphenate ("xeroform") gauze to the skin graft In twenty four hours, the graft was examined It was discovered that the upper lateral border had moved, and it was

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From the Department of Anatomy, University of Kansas City impossible to restore it to its original position, as it was too tightly adherent to its recipient area. Some necrosis had ensued, which made us somewhat disappointed. We believed that this man had moved about in bed too much on his back and had produced this movement. Any movement of his right arm would create a movement of the scapula and hence some movement of the graft.

Case 4.—A staff sergeant received a gunshot wound through the right knee while in Africa. A right popliteal arteriovenous fistula developed, which was corrected in San Francisco. After this operation, he acquired an indolent ulcer of the right popliteal fossa, which failed to respond to any treatment. The cicatrix was excised and replaced by a thin skin graft by the Sano method. The graft was examined in twenty-four hours, and the edges of skin were in perfect apposition, with no blebs or hemorrhages under the skin. The knee joint was immobilized with a plaster cast. A perfect result occurred in this case.

Case 5.—A private accidentally stepped on a land mine in Louisiana. He sustained a compound, comminuted fracture of the tibia and fibula, with a resulting indolent cicatrix over the anterior midshaft of the tibia. The cicatrix was excised and replaced with a thin skin graft by the Sano method. The graft was reinforced with bismuth tribromphenate gauze. It was examined in twenty-four hours, and the edges of skin were in correct apposition, tightly adherent. It had a purplish appearance. The result was ideal.

COMMENT

The bleeding of recipient areas was controlled entirely by hot saline compresses, no suture material being utilized, as we felt it was not conducive to good grafting. We had some bleeding only in case 3, and that could have been avoided if more precaution had been taken. Some movement of the graft had ensued because it was over a dependent bony prominence. The grafts were tightly adherent in twenty-four hours. The Sano method may be used to some advantage for grafting in unusual contours in which it would be difficult to use sutures or apply pressure, as in cases 1 and 2. The time element is a factor. The plasma and cell extract appeared to promote coagulation of bleeders in recipient areas and also to eradicate accumulation of excess serum under the graft. Five cases are not sufficient to pass critical judgment, but I should conclude, from what we have seen and done and the results obtained, that the Sano method should be favorable.

SUMMARY

Grafting by the Sano tissue glue method was attempted in 5 cases, and the results were favorable. This indicates that this method has some practical value. Hospitalization has been reduced to a minimum, and the time required for the operation itself has been shortened. The line of apposition between the recipient and donor tissues is not so conspicuous as with other methods.

REFERENCES

Sano, M. E.: Surg., Gynec. & Obst. 77:510-512 (Nov.) *1943*. Am. J. Surg. 61:105-106, 1943.

RESUMEN

En 5 casos se han llevado a cabo injertos por el método de Sano (tejido engomado) obteniendose resultados satisfactorios, lo cual indica que el procedimiento referido está dotado de un cierto valor práctifo. Con el empleo de esta técnica se ha acortado el tiempo de hospitalización, y se ha reducido, por otro lado, el periodo de duración de la intervención quirurgica. Hay que resaltar que la línea de aposición entre los tejidos del dador y el recibidor no es tan marcada como con los otros métodos.

RÉSUMÉ

Le greffage d'après la méthode tissu glu de Sano fut pratiqué 5 fois avec succès par l'auteur. Cela indique que la méthode a une valeur pratique. Avec cette méthode le séjour à l'hôpital est abrégé et l'acte opératoire s'effectue en moins de temps. La ligne d'apposition de la greffe est moins visible que par l'emploi des autres méthodes.

Свод

Пересадка кожи по клеевой методе Sano была успешно произведена в пяти случаях. Это показывает, что этот способ имеет известную практическую ценность. При его употреблении пребывание в больнице было минимальным и было укорочено время, необходимое для производства самой операции. Линия аппозиции тканей донора и рецептора была менее заметна, чем при других способах.

RUSSIAN SUMMARY FOR ARTICLE BY SPAETH AND KREWSON

(IN AUGUST ISSUE)

СВОД

Очень трудно поставить диагноз чисто артериальной аневризмы круга Willis'a; диагноз более часто приходится сделать исключением, чем подтверждением, и обыкновенно он подтверждается разрывом. Артериовенозные аневризмы сосу*дов, или по близости сосудов, составля*ющих круг Willis'a не представляют очень сложные диагностические задачи. Их легко удалить хирургически. Хирургический подход, за исключением Dandy интракраниальной перевязки (соображение которой здесь не включено) состоит предпочтительно (и следуя хорошо известную обыкновенную предварительную диагностическую процедуру) из перевязки общей сонной артерии, а затем, если необходимо, из перевязки коллатеральных сосудов как язычная, лицевая, затылочная, височная и, особенно, позже, внутренняя сонная артерия. После перевязки общей сонной артерии, внутренняя сонная артерия в действительности делается, на основании анастомозов с соответствующими артериями противоположной стороны шеи и лица, ветвью наружной сонной артерии. Перевязка, позже, внутренней сонной артерии дает возможность развить коллатеральное кровообращение, центростремительно к черепной полости, до степени достаточной, чтобы вполне предохранить осложнения, появляющиеся в связи с первичной перевязкой.

Библиография содержит 363 справок от 1807 года до времени этой статьи.

Local Infiltration of Procaine Hydrochloride Solution Combined with Intravenous Administration of Pentothal Sodium

HAMILTON BAILEY, F.R.C.S., F.I.C.S. (Hon.)
LONDON, ENGLAND

FOR certain urgent operations, notably those for perforated peptic ulcer, acute pancreatitis and diffuse peritonitis from any cause, I have found that local infiltration combined with intravenous pentothal sodium * anesthesia is unexcelled. It is in emergencies such as these that, fearing chest complications, I strive to avoid use of an inhalation anesthetic.

Having become familiar with this form of combined anesthesia, I have little doubt that the surgeon, particularly the isolated surgeon, will find an increasing field for its application.

Although the procedure is absolutely simple and, if carried out in the manner I shall detail, is safe, experience has taught me that there are a surprising number of possible errors and misunderstandings, many of which may spell disaster. Among these mistakes are: injecting the pentothal solution into the rubber tubing near the interceptor as opposed to near the vein; injecting the pentothal solution and then turning on the saline solution (which was dripping slowly) to a faster rate; allowing the receptacle containing the saline solution to run dry when all eyes are focused on the operation or the patient's face; preparing two 1 Gm. doses of pentothal sodium (larger ampules) instead of two 0.5 Gm. doses.

Again I stress the need for adhering to the technic described in its entirety. Many modifications were tried before these ultrasimple steps of the procedure were stabilized. In my endeavor to avoid misinterpretation, I crave the indulgence of the reader for my reiteration of what at first sight may appear ridiculously elementary instructions.

In order to expound the technic, a case of perforated peptic ulcer will be chosen. The choice of case is deliberate, for in my opinion it is of cardinal importance to avoid an inhalation anesthetic in unselected examples of this catastrophe.

TECHNIC OF PREOPERATORY PREPARATION

In the Ward.—The stomach is emptied with a gastric aspiration tube, which is left in place. The patient is given a suitable dose of morphine, and his eyes are blindfolded securely. He is transported to the operating theatre.

In the Operating Theatre.—A cannula is tied into a vein, or the bone marrow of the manubrium is cannulized. The choice of the route by which fluid is introduced into the circulation is not stereotyped; indeed, there are three avenues for its reception, each having advantages and disadvantages.

1. An internal saphenous vein has the advantage that the infusion paraphernalia are well away from the abdomen. The main disadvantage is that the anesthetist has

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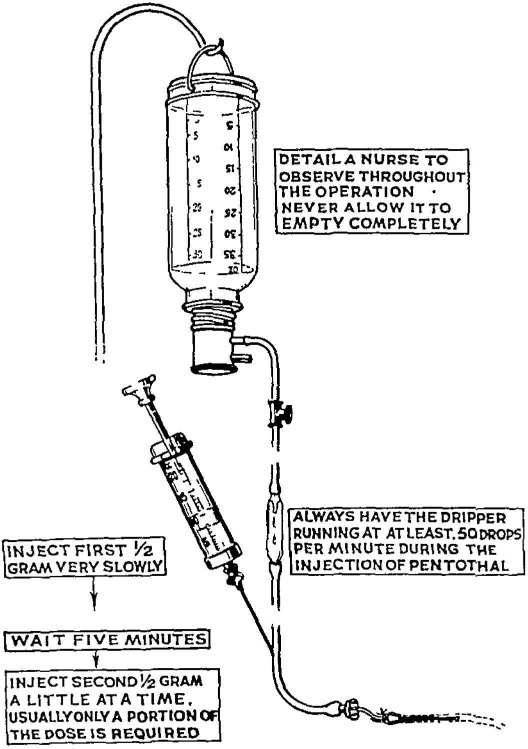
* Pentothal sodium is sodium ethyl (1-methylbutyl) thiobarbiturate.

to journey to and from the patient's head and foot.

2. A vein of the left forearm is open to the objection that the extended arm and the attached apparatus hamper the surgeon's assistant.
3. The bone marrow of the sternum is efficient provided all concerned are familiar with this route.



DETAIL A NURSE TO OBSERVE THROUGHOUT THE OPERATION · NEVER ALLOW IT TO EMPTY COMPLETELY

ALWAYS HAVE THE DRIPPER RUNNING AT AT LEAST. 50 DROPS PER MINUTE DURING THE INJECTION OF PENTOTHAL

INJECT FIRST ½ GRAM VERY SLOWLY

WAIT FIVE MINUTES

INJECT SECOND ½ GRAM A LITTLE AT A TIME. USUALLY ONLY A PORTION OF THE DOSE IS REQUIRED

Symposium of essential details for supplementing local infiltration with intravenous anesthesia

Haste Is Unnecessary.—Once the fluid is dripping into the circulation, unless the patient is moribund, his general condition commences to improve rather than to deteriorate. If necessary, he can receive a pint of plasma before the intravenous introduction of the saline solution; indeed, until the patient has an adequate blood pressure (at least

110 mm. of mercury), the operation should not be commenced. The abdomen can be shaved and prepared more conveniently than if he were in bed. The theater staff preparing for the operation should be instructed to carry out their duties quietly, and told that, as there is no undue haste, there is no excuse for clattering instruments.

Preparing the Pentothal Solution.—The anesthetist takes two 0.5 Gm. ampules of pentothal sodium and two corresponding ampules of sterile water. Providing himself with two 10 cc. syringes, he proceeds to fill each, and thus has two 10 cc. doses of a 5 per cent solution of pentothal sodium in readiness.

Having made the necessary preparation and having ascertained that the patient's condition is satisfactory, what may be termed the operation proper can be commenced.

TECHNIC OF OPERATION

Infiltration of the Abdominal Wall.—The skin from the umbilicus to the xiphisternum is infiltrated with 1 per cent solution of procaine hydrochloride. A midline incision is made in the skin. There is usually little or no bleeding. The edges of skin are grasped in a Lane forceps. After a little undermining of these edges of skin on either side, each rectus sheath is infiltrated with the local anesthetic thoroughly.

Introducing Pentothal into the Circulation (Fig.)—The saline solution must be running at a rate of at least 50 drops a minute. The anesthetist sterilizes the rubber tubing near the cannula and injects 0.5 Gm. of pentothal into the lumen of the rubber tube in exactly the same way as it would be injected directly into a vein, i.e. very slowly, 0.1 Gm. at a time. While the pentothal is being injected a nurse sits on the anesthetist's seat at the head of the table, encourages the patient, tells him to count loudly, and has her hands in readiness to hold the jaw forward should this become necessary. When the injection has been completed the anesthetist returns to the paient's head. Unconsciousness is sometimes delayed a little longer than in the case of a direct injection into the vein. Usually the respirations become somewhat shallow, and the patient tends to become cyanosed. In all cases the lower jaw must be held forward, and in many instances oxygen should be administered.

We shall assume that the patient has fallen asleep, that he is somewhat cyanosed and that the anesthetist is attending to him.

Opening the Peritoneum.—While the work just described has been proceeding, the surgeon has clipped towels to the wound edges, has completed the midline incision and has opened the peritoneum. Again, it is emphasized that there is absolutely no hurry. Time can be well spent sucking out fluid from the peritoneal cavity. If all is well with the patient, the operation proceeds, and after at lapse of five minutes a portion of the second 0.5 Gm. of pentothal is injected according to the needs of the patient. Usually after the lapse of five minutes the abdominal wall is well relaxed and the patient's color is a satisfactory pink. All that is necessary is to give just sufficient pentothal in 0.1 Gm. doses to keep him asleep; the local anesthetic is in full operation as far as the abdominal wall is concerned.

To illustrate what can be accomplished with this form of combined anesthesia, I sutured successfully a perforated gastric ulcer in a patient aged 80 at 2 a.m. in a small nursing home during an air-raid. As, owing to the circumstances, no medical assistance could be obtained, a nurse injected the pentothal under my instructions.

RESUMEN

El autor ha hallado que la infiltración local con clorhidrato de procaína en combinación con la inyección intravenosa de pentothal sódico constituye un método excelente para cierta clase de operaciones de urgencia, especialmente en la úlcera péptica perforada, pancreatitis aguda y peritonitis difusa de cualquier origen. En el presente trabajo se describe detalladamente la técnica de este procedimiento anestésico.

RÉSUMÉ

L'auteur nous dit que dans certaines opérations d'urgence, telles que les opérations pour perforations d'ulcère peptique, pancreatites aiguës et péritonites diffuses, le chirurgien peut avec grand avantage avoir recours à l'infiltration locale avec l'hydrochlorure de procaine combinée à l'injection intraveineuse de pentothal sodium. Il décrit en détail la technique qu'il emploie et qu'il recommande.

Свод

Автор находит, что при некоторых срочных операциях, как перфорация желудочной язвы, острый панкреатит и общий перитонит от всякой причины, местная инфильтрация раствором кислой соли прокаина вместе с интравенозным вливанием соды пентотала является самой лучшей мерой. Дано детальное описание методики

PROGRAM FOR TENTH NATIONAL ASSEMBLY OF UNITED STATES CHAPTER

(Continued from inside front cover)

Brig. Gen George Callander, Medical Corps, United States Army, and Prof E Newton Harvey, Professor of Biology, Princeton University

Dr. Frank Adair, Associate Professor of Clinical Surgery, Cornell University Medical School

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"Missiles and Their Effects on Human Tissues"

"Carcinoma of the Female Breast"

"Surgery of the Thyroid Gland"

"Carcinoma of the Uterus When Surgery? When Radiation?"

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Title to Be Announced

"Typhoid Osteomyelitis"

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"Herniation of Fascial Fat as a Cause of Low Back Pain"

"Hypoparathyroidism"

Supravaginal and Complete Hysterectomies

An Analysis of Indications, Results and Dangers

ROY W. MOHLER, M.D., and EDWARD H. BISHOP, M.D.
PHILADELPHIA, PA.

THE supravaginal hysterectomy has been a standard gynecologic procedure for many years. It was one of the early types of abdominal operations and has held a high position among operations so far as cure or relief of the patient and her symptoms are concerned. Generally, it has been considered an adequate procedure that has not been too hazardous to the patient. Physiologic observations and knowledge accumulated in the last two decades have allowed tremendous extensions of surgical procedures, and what was considered adequate and successful surgery twenty years ago does not rank as such today. This statement applies to the surgery of all systems of the body, and of course it applies to the operations undertaken by the gynecologist. The supravaginal hysterectomy has been referred to as an incomplete operation, and this term seems best to describe its position among surgical operations at the present time. This does not mean that a supravaginal hysterectomy should never be done and that the procedure does not have a definite and established position in good surgical practice.

The complete hysterectomy has become an increasingly popular procedure in the past decade, and more gynecologists are finding reasons why this procedure should be done more often and why indications for it have become extended.

It is our purpose in this presentation to analyze and discuss some convictions which we have acquired in regard to the complete hysterectomy. These convictions are based on a study of 100 consecutive complete hysterectomies done at the Jefferson Hospital and The Philadelphia Lying-In Hospital over a relatively short period of time, and after a definite technic had been developed. In all instances the senior author was personally responsible for the patient and his technic was carried through at the operation. In a few instances the house officer or the junior member of the staff did the actual operation under the senior author's direct supervision.

THE SUPRAVAGINAL HYSTERECTOMY

The supravaginal hysterectomy has been utilized very generally as the operation of choice for benign uterine tumors which originate in the body of the uterus and for adnexal lesions. It has been successful in the relief of symptoms produced by such lesions as myomata uteri, adenomyosis uteri, functional uterine bleeding, partial descent of the uterus, pelvic inflammatory disease, endometriosis, endometrial polypi and benign uterine adnexal disease. In the presence of these conditions it has been thought advantageous or not disadvantageous to allow the cervix to remain. Some of the advantages which are attributed to the supravaginal hysterectomy have

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been the simplicity of the technic, the slight loss of blood, the absence of postoperative morbidity and the very low mortality. Besides these immediate advantages, great importance has been ascribed to the cervix as a fundamental structure in the human female. The preservation of the cervix has been thought to be necessary to maintain normal support of the vaginal vault and bladder, to maintain normal vaginal secretion and to prevent shortening of the vagina. With these facts as a basis, we have studied this series of cases and wish to discuss our convictions.

TECHNIC

We shall not discuss in detail the technic which has been used for the complete hysterectomy. However, we shall mention some pertinent points. Preparation of the vagina is accomplished by thorough cleansing followed by the use of some antiseptic, preferably an aqueous solution of zephiran chloride. This is done in the operating room, and, when necessary, it has been followed by a vaginal plastic procedure. A self-retaining catheter is placed in the bladder and is allowed to remain there for seventy-two hours following the operation. This was done originally because of the fear of injury to the bladder and the ureter, and it has been continued because it decreases the necessity for nursing care. It is our impression that it prevents immediate postoperative bladder dysfunction and immediate postoperative morbidity due ,to such dysfunction.

The technic of the hysterectomy proper is really an extension of the technic used for supravaginal hysterectomy. The bladder peritoneal flap is developed, and the ligation of the ovarian vessels is not at all different for the two procedures. The uterine vessels are ligated originally at about the site which one would use for the supravaginal hysterectomy, and then the uterine vessels are dissected from the uterus by cutting away the parametrium. One or two additional ligatures are necessary to control all the bleeding from the uterine vessels contained in the parametrium. The parametrium is dissected free from the cervix and upper part of the vagina as far as necessary. The uterosacral ligaments are then exposed, ligated and separated. Then the uterus is excised from the vagina. All the vessels are religated, and the vagina is closed with a continuous suture, so as to avoid as much as possible the development of persistent granulations in the vaginal canal. Many surgeons have found it unnecessary to close the vagina, but it would seem that some type of everting suture should be used to approximate the vaginal walls in either sulcus, even though the vagina is not completely closed.

The round ligaments and the utero-ovarian or infundibular pelvic ligaments are fixed to the vault of the vagina. Although this may not be necessary, it accomplishes two purposes: it fixes the vault of the vagina, and it helps somewhat to peritonealize the exposed pelvic surfaces. All raw surfaces are covered, and only one knot is exposed to the peritoneal cavity.

We prefer to use fine catgut suture, chromic no. 0, throughout the procedure, and we have the impression that this is good surgical practice.

The anesthetic we prefer is fractional spinal, with special consideration for small doses. In the series of cases which we are using as a basis for this discussion, 2 cc. of 5 per cent procaine hydrochloride solution in the spinal fluid was used as the initial dose and 1 cc. of the solution was used as necessary to supplement the original doses. Usually 5 or 6 cc. of the solution was necessary to complete the operation, or a total of 250 mg. This type of anesthesia gives good and adequate relaxation, prevents dangerous depression of the blood pressure and allows for a careful and deliberate technic.

The time, trauma and loss of blood associated with the complete hysterectomy are not remarkably greater than with supravaginal hysterectomy. The immediate effects of the operation on the patient are essentially the same regardless of which procedure is used, and it would seem that the crux of the problem is which procedure gives immediately and ultimately the better results.

With these points in mind, we have studied this series of 100 cases.

The ages of the patients were distributed as shown in table 1.

TABLE 1

Age Distribution

Age, Years	No. of Patients
20–29	1
30–39	36
40–49	50
50–59	11
60–69	2

The average age was 44.0 years. There was only 1 patient in this series under 30 years of age, but on the basis of our experience we feel that there is no real objection to removing the cervix of a young woman when no endometrium can be conserved regardless of whether the adnexa must be removed or not. This statement is made deliberately and implies that the cervix per set serves no useful purpose in the woman who must have her uterus removed.

The extent of the operation and the additional surgical procedures are shown in tables 2 and 3. These are shown with the idea of demonstrating that routinely the disposition of the uterine adnexa is made without regard to the conservation of the cervix and that it is considered good surgical practice to conserve the uterine adnexa in all patients up to the age of 50 when they appear normal and when there is no indication of endocrine dysfunction in the patient's history. The number of additional procedures indicates that these can be accomplished without undue danger to the patient and can substantiate the concept that gynecologic operations are often multiple operations, accomplished with the idea of completely reconstructing the pelvic organs and relieving the patient of symptoms referable to the genital tract. Here again the conservation of the cervix need not have been considered.

TABLE 2

Type of Operation

	No. of Cases
Total hysterectomy, conservaton of adnexa	23
Total hysterectomy, partial removal of adnexa	26
Total hysterectomy, complete removal of adnexa	51

TABLE 3

Additional Surgical Procedures

	No. of Cases
Dilation and curettage	10
Appendectomy	22
Vaginal plastic operation	12

Table 4 shows the incidence of febrile reaction following this series of operations. The incidence of 21 such postoperative reactions may seem high and actually indicates an unexplained cause for febrile reaction for the seventy-two

TABLE 4

Morbidity

	No. of Cases
Postoperative febrile reaction	21
Urinary tract infection	10
Perirectal abscess	1
Pyelitis and retained sponge in vagina	1
Thrombophlebitis	1
Wound infection	1

hours immediately following the operation. This febrile reaction occurs frequently and is rather expected after many operations of an extensive nature. It need give no particular concern to the physician in charge of the patient and seems not to retard the patient's ultimate recovery. The number of patients with definite cause for the fever are given, and they are about the number and kind one would expect with any extensive operation. It is not shown in the table, but very likely the patients with pyelocystitis were the ones who were subjected to extensive bladder mobilization during the course of the operation.

No accidents were sustained at operation which could be directly attributed to the complete hysterectomy. One ureter was severed during an operation, but this accident would have occurred regardless of which type of hysterectomy was done. It took place during the release of an adherent adnexa, and after immediate care of the ureter a complete hysterectomy was done. No bladder injuries were known to occur. There was one intestinal injury. The small intestine was severed when an effort was made to free it from a large inflammatory mass in the pelvis. Immediate disposition of the injured intestine was made, and a complete hysterectomy was done. There has been no immediate or remote mortality in this series of cases, and no remote morbidity which we could ascribe to the type of operation performed.

In our series of cases the average number of hospital days following the operation before the patient's discharge from the institution (table 5) was fifteen and four tenths. The shortest stay in the hospital following the operation was eleven days, and the longest stay was forty-three days.

TABLE 5

Length of Hospitalization Following Operation

	Days
Shortest	11
Longest	43
Average	15 4
Mean	14

INDICATIONS FOR COMPLETE HYSTERECTOMY

In a presentation of this kind one should discuss some of the indications which are usually accepted for complete hysterectomy. Carcinoma of the cervical stump has been used as one of the chief indications. Carcinoma of the cervical stump has been observed 21 times in a series of 541 cases by Dr. Lewis C. Scheffey of Jefferson Hospital in his cases of carcinoma of the cervix. This alone would justify the removal of the cervix if the normal physiologic processes of the genital tract could be maintained and if the mortality and the remote morbidity from the operation did not overcome the effects it produces in lowered incidence of cancer.

FOLLOW-UP OBSERVATIONS AND COMMENTS

Our follow-up of these patients has been directed to determine some of the remote results which we think are important and which have not been stressed because of the importance placed on the danger of cancer occurring in a retained cervical stump after supravaginal hysterectomy.

In this series of cases of complete hysterectomies our interest is particularly directed to four points which theoretically could be influenced by removal of the cervix: (1) granulations in the vault of the vagina; (2) support of the vaginal vault; (3) shortening of the vagina, and (4) development of normal vaginal biology.

Granulations in the vault of the vagina have occurred in 27 per cent of our patients and have usually been managed by curetting the granulation tissue a few weeks after the operation. If the granulations are not destroyed, it is our impression that they will produce an abnormal vaginal flora and consequently a leukorrhea. In our experience they have not been a troublesome problem, but they should and can be prevented with proper attention to closure of the vaginal vault. We think that the instances of their occurrence have become fewer as we have learned to close the vault of the vagina more meticulously.

The support of the vaginal vault is not dependent on the presence of the cervix. This statement is proved by the utilization of vaginal hysterectomy for the cure of prolapse of the uterus and of vaginal eversion. It has also been observed that prolapse of a retained cervix occurs not infrequently following supravaginal hysterectomy, but in our experience prolapse of the vaginal vault has not occurred following complete hysterectomy.

Our follow-up of this group of 100 patients has indicated that no vaginal shortening occurred because of the operation, and in some instances it was our impression that the vagina had been lengthened somewhat. In regard to this statement one should appreciate that there is a great variation in the length of the vagina in different individuals, and it is difficult to understand how the operation of complete hysterectomy could influence greatly the length of a structure which is so variable. It does not seem that either a supravaginal hysterectomy or a complete hysterectomy without vaginal repair could alter the length of the vagina sufficiently to interfere greatly with complete or satisfactory coitus.

Normal vaginal biology has been an important consideration with us in our follow-up study of this series of cases. Our studies have not been completed and some of our concepts are hypothetical, but it is our impression that normal vaginal biology exists after complete hysterectomy when the ovaries are conserved. This concept is based on the examination of a great many vaginal smears taken after complete hysterectomy with conservation of ovaries and after the use of estrogenic substances when the ovaries have been removed. Much importance should be ascribed to this concept, and it would seem that the value of complete hysterectomy as a standard and acceptable procedure can depend very largely upon this concept.

SUMMARY AND CONCLUSIONS

We have discussed the merits of two standard gynecologic operations, the supravaginal hysterectomy and the complete abdominal hysterectomy.

The supravaginal operation holds a definite and respected position in surgery and should be used when the opportunity has not been available to standardize a technic for complete hysterectomy.

We have used a series of 100 consecutive cases in which complete abdominal hysterectomy was done as a basis for our concepts, which are as follows:

1. The cervix per se is not an important structure when no endometrium can be conserved.
2. The mortality for complete hysterectomy may be slightly greater in a large series of cases. There was no mortality in this series of cases, nor has there been any mortality from complete hysterectomy at any time in our own experience.
3. The incidence of immediate febrile reaction is about the same for the two procedures. Theoretically, it should be less following complete hysterectomy.

4. We think that the remote morbidity is less after complete hysterectomy, and we have outlined briefly some of our criteria for this belief.

5. Finally, we believe that the complete hysterectomy is a complete operation that should be utilized by well trained gynecologists and that as one's experience grows its merits will become obvious and impressive. The supravaginal operation, however, must be utilized at times and will always retain its position as a valuable surgical procedure.

RESUMEN

Se estudian los méritos de dos intervenciones ginecológicas de tipo standard: la histerectomía supravaginal y la histerectomía abdominal completa.

La intervención supravaginal ocupa un lugar bien definido dentro de la cirugía y debe ser empleada cuando no se tenga la oportunidad de establecer una técnica standard para la histerectomía completa.

Nuestras conclusiones se basan en una serie de 100 casos consecutivos en los que se empleó la histerectomía abdominal completa. En resumen, las conclusiones alcanzadas son las siguientes:

1. El cuello por sí mismo no constituye una estructura importante en las circunstancias en que no pueda conservarse endometrio alguno.

2. La mortalidad correspondiente a la histerectomía completa puede que sea ligeramente superior en una serie más numerosa de casos. En la serie presente no se observó ningun caso de mortalidad, y en nuestra experiencia tampoco hemos tenido ningún desenlace fatal con la histerectomía completa.

3. La presencia de reacciones febriles inmediatas es aproximadamente igual con los dos métodos. Teoricamente deberían ser menores tales reacciones e seguidas de la histerectomía completa.

4. Estimamos que la morbilidad remota es menor a continuación de la histerectomía completa, y a este proposito hemos expuesto brevemente nuestro criterio.

5. Como final, creemos que la histerectomía completa constituye una intervención total que debe ser empleada por ginecólogos bien experimentados. Estimamos asimismo que los méritos de esta intervención se harán mayores y más patentes a medida que aumente nuestra experiencia en ese campo. De todos modos, la intervención supravaginal seguirá usándose en ocasiones y continuará manteniendo una posición propia y valiosa en la cirugía ginecológica.

RÉSUMÉ

Nous avons discuté les mérites de deux opérations classiques gynécologiques: l'hystérectomie supravaginale et l'hystérectomie abdominale complète. L'opération supravaginale a une position définie et respectée et sera l'opération de choix quand l'opportunité de se perfectionner dans la technique de l'hystérectomie complète n'est pas à la portée de l'opérateur. Nous avons fait une série de 100 cas consécutifs d'hystérectomie complète abdominale, et nous sommes arrivés aux conclusions suivantes:

1. Le cervix par lui-même n'est pas important quand tout l'endomètre doit être enlevé.

2. La mortalité de l'hystérectomie complète peut être plus élevé dans une grande série de cas. Nous n'avons eu aucune mortalité dans nos cas.

3. La réaction fébrile immédiatement consécutive à ces deux opérations est à peu près la même. Théoriquement, elle devrait être moindre après l'hystérectomie complète.

4. Nous croyons que la morbidité éloignée est moindre après l'hystérectomie complète. Nous avons énuméré brièvement les critériums de notre opinion.

5. Finalement, nous sommes d'avis que l'hystérectomie complète est l'opération de choix dans les mains de gynécologues entraînés. Avec l'expérience les mérites de cette opération deviennent plus évidents et plus impressionnants. L'opération supravaginale peut être utilisée dans certains cas et ne doit pas être abandonnée entièrement.

Свод и заключения

Взвешена сравнительная ценность двух общепринятых гинекологических операций, именно суправагинальной и полной абдоминальной истерэктомии.

Суправагинальная истерэктомия занимает определенное и важное место в хирургии и должна быть применена, если методика полной истерэктомии еще не вполне усовершенствована.

Следующие заключения были сделаны на основании 100 последовательных случаев полной абдоминальной истерэктомии:

1. Шейка матки сама по себе не является важным органом, если нельзя сохранить эндометрий.

2. Смертность при полной истерэктомии может быть выше в большом количестве случаев. В данной серии смертельности не было, и вообще во всем нашем опыте с полной истерэктомией.

3. Немедленное повышение температуры случалось в обеих операциях с той же частотой. Теоретически такая реакция должна быть более редкой при полной истерэктомии.

4. Мы думаем, что отдаленная смертельность меньше при полной истерэктомии. Мы даем краткий обзор наших соображений.

5. В заключение, мы верим, что полная истерэктомия это полная операция, которая должна быть произведена хорошо тренированными гинекологами, и, что по мере роста опыта, преимущество этой операции делается более очевидным и важным. Все же иногда необходимо применить суправагинальную операцию и она всегда будет занимтаь свое место, как ценная хирургическая мера.

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The Newer Developments in Shock and Refrigeration

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NEW YORK N Y

TRAUMA and shock and their treatment always rank high in surgical importance, and they do so particularly in a time of war. Existing textbooks being out of date, an opportunity to review recent developments in a small monograph is hoped for, but the immediate military application is the reason for summarizing in this paper some details which may be better known to specialists than to the members of the medical profession in general.

It has been proposed elsewhere[1] that the word shock can be made precise by limiting it to its original surgical meaning and to designation of a few truly equivalent conditions, and the basic distinction between primary and secondary shock can be clarified by three contrasting features. Primary shock is of nervous nature, located in the arterioles and characterized by vasodilatation. Secondary shock is of metabolic nature, located in the capillaries and characterized by vasoconstriction. The word shock by itself is used to denote secondary shock, because of its greater importance.

The total evidence supports Phemister's contention[2] of the nonexistence of "neurogenic" secondary shock. Two qualifications are important. First, though nervous or primary shock is seldom fatal, the well known deaths from the vasodilator hypotension of spinal anesthesia illustrate the occasional exceptions. Second, pain, spinal anesthesia and all other causes of primary shock aggravate secondary shock or lower resistance to it. Therefore, spinal anesthesia is prohibited in secondary shock. The extent of the prevailing confusion is exemplified in claims that spinal anesthesia can be shockless like refrigeration if it is given low enough or if hypotension is counteracted by injection of epinephrine or a similar drug. The rudimentary fact is that no kind of nerve block inhibits secondary shock, and vasoconstrictor drugs are contraindicated in its treatment. It was necessary elsewhere[3] to criticize an assertion[4] that in cases of thigh amputations done with spinal or inhalation anesthesia "none of the patients suffered from shock during or after the operation." Refrigeration is unique as the only agency that inhibits both primary and secondary shock. Nobody can amputate a thigh without shock except under refrigeration. Strong patients may withstand the shock excellently, and surgeons may find reasons for preferring other anesthetics in spite of the shock factor. But the low mortality figures on which a few surgeons pride themselves are prima facie proof that they were dealing with patients strong enough to tolerate the shock. A very simple confirmation is furnished by the ability of patients to eat full meals before and after refrigeration operations and their inability to do so after subjection to other anesthetics. It is unnecessary here to add the claim of improved healing after refrigeration and the assured fact that refrigeration is the only form of anesthesia that has never caused any deaths.

OBSERVATIONS ON SHOCK

Unintentionally and unfortunately, the individual unaided research,[5] of which refrigeration was one feature, included other new findings which sweepingly contradicted the cardinal doctrines of shock which had been maintained by official and academic authority without challenge for a generation, but which were found to rest on defective experimental evidence or none. Although limited in methods, delayed for years and finally terminated by blocking of all opportunities and support, the following nine observations have apparently led to productive new investigations by others.

1. The tourniquet method for producing experimental shock was selected, standardized and demonstrated with respect to its advantages of convenience and freedom from complications. This use was begun long before the publication of Wilson and Roome,[6] on the basis of deaths encountered in ligations of legs at various temperatures and also of the scattered clinical reports of this kind. The newness of the standardization was attested by the published doubts concerning reliability (Noble[7]; Wiggers[8]) and the necessity of personal demonstration to several investigators. The wide laboratory adoption of the method definitely followed this paper.

2. The demonstration of the inhibition of shock by reduced temperature and its aggravation by elevated temperature was the first break in the universal practice of warming shocked patients or their injured parts. Besides the shockless anesthesia, this principle has found other applications, to be mentioned later.

3. The first idea of immunization against shock was introduced in experiments which failed because of the unfavorable environment. But Green and Bielschowsky[9] adopted the identical method successfully, and confirmations by Ungar[10] and Noble[11] leave no doubt of the fact that a series of graded injuries will enable an animal to withstand two or three times as much injury as would cause fatal shock in normal controls. Theoretically this contribution possibly favors the toxic element in shock, and practically it suggests a prophylactic value of the rough exercises used in training soldiers.

4. The demonstration that large intravenous injections of saline solution or plasma result in progressive accumulation of fluid in any injured region but not elsewhere in the body, and also that such abnormal permeability is absent in hemorrhagic shock, was the simplest and one of the earliest proofs that abnormal permeability is limited to the injured area, but it has received no mention in connection with more elaborate proofs by workers enjoying lavish facilities.

5. A dual theory of etiology was proposed: namely, that shock is a variable mixture of the two components of fluid shift and intoxication. The toxic theory of the governmental Shock Commission of the first World War was based on a very elementary blunder, namely, the incorrect weighing of animals' legs. Thus they missed the actual amount of local fluid exudation, which in many cases is clearly sufficient to account for death by a physical process without a necessary assumption of a chemical factor. But, apart from the disputed evidence offered by Moon and other upholders of intoxication, the new research stressed two points which had been overlooked by Phemister and Blalock in setting up the pure physical theory. First, their procedure had not been varied enough for establishing a general law, and their somewhat stereotyped

experiments allowed time for plentiful accumulation of fluid. The opinion that the severest shock which kills in the shortest time is accompanied by less than fatal local accumulation of fluid has been confirmed most recently by the Chess group,[12] who have also claimed to show evidence of intoxication by cross transfusion. Second, Phemister and Blalock failed to observe that the severest shock can be fatal even if sufficient plasma to maintain the blood volume is injected from the earliest stage. Since the cause was not nervous, the proof of a chemical factor seemed to be decisive. This proof has now been completed by the direct demonstration[13] of circulating chemical substances corresponding to the successive stages of shock. This brilliant work of the Chambers group has also confirmed the suggestion[5b] of differences in the shock produced by varying the components, i.e., by ligating large tissue masses for short periods or smaller tissue masses for longer periods. Presumably the response to treatment may be found to vary accordingly.

Although the dual mechanism in shock seems to be thus conclusively established, there is room for a plausible speculation that chemical substances in the injured tissues may be the cause of the abnormal capillary permeability and fluid exudation, and that these or related substances diffusing into the circulation may be responsible for the systemic vascular disturbances. In this way a unitarian toxic concept may possibly be established.

6. The prevailing theory of irreversibility of shock[8, 14] was corrected by showing that animals in the act of drawing their last breath could be revived and enabled to live twelve to thirty hours longer with a striking recovery of strength. The best revival was obtained with injections of saline solution in dogs with hemoconcentration, but of whole blood in dogs with hemodilution and in all rats; plasma was always inferior. Presumably the reservoir of hyporeactive toxin (Chambers) in traumatic shock made the ultimate outcome more hopeless than in hemorrhagic shock, since the Levine-Soskin group[15] confirmed this reversibility in hemorrhagic shock to the extent of complete recovery. Transfusion alone having always failed (this creating the legend of irreversibility), their success was accomplished with the aid of salt solution.

The fundamental significance of this changed viewpoint should be made clear. The doctrine of irreversibility assumed that hypotension, anoxia or other processes in shock caused injuries to the liver, adrenals, nervous system, heart or especially the general capillaries, which were inevitably fatal. The disproof of this doctrine reveals a large reserve function in these organs up to the ordinary time of death. This does not imply that a hopeless stage may not be reached later or that any shocked organism can be saved at any stage. It does remove an excuse for failure. It implies that many patients, especially under the former plasma treatment, have died at stages when they were still capable of temporary or permanent recovery. Death in the hopeless cases may be attributed either to lethal quantities of the hyporeactive substance (Chambers) or to further anoxial damage. But the ability to prolong life arouses hope and challenges workers to discovery of better injection fluids or other treatments, as will be mentioned later.

7. The misconception of endless leakage of plasma through damaged capillaries and the necessity of colloid injections to keep the blood stream filled was overthrown. When the tissue-need for

fluid and electrolytes is satisfied, an equilibrium is established so that the circulatory volume is maintained, even though the injected fluid is plain saline solution and even though the blood is abnormally diluted. The exudation remains stationary, subject to increase with further injections but not spontaneously. These experiments and this principle in shock have been entirely ignored by later writers.

8. New evidence was brought showing the elementary fallacies in the potassium intoxication theory and in the adrenal cortical therapy of shock. The omission of the latter practice from the recent official memorandum[16] on fluid balance may help to terminate its lingering survival among some physicians.

9. This publication[5b] was the first to compare plasma and saline solution in shock treatment and to declare the latter equal or superior. Davidson[17] and Underhill[18] showed saline solution to be beneficial for burns (confirming its use for various conditions since 1831), but the tradition of superiority or necessity of plasma remained unquestioned. The official Shock Commission of the first World War became so enamored of a theory of colloid domination of the circulatory phenomena of shock that they set up this pure fancy as a dogma without any real proof of the alleged specific benefit of colloid solutions and harmfulness of crystalloid solutions in shock, but it is chiefly amazing that the wealthiest laboratories should have dutifully supported the authorities with ostensible experimental proofs for a generation. Since 1939 a series of investigators[18, 19, 20, 21] have reported variable comparisons between crystalloids and colloids. The lack of value in pure protein solutions or dialyzed plasma was demonstrated.[22] The failures with saline solution can be mostly explained by deficiencies in quantity or timing or by other technical factors, such as a hemorrhagic complication (crushing or ten hour ligation of legs). Saline solution was proved fully efficacious in the nonhemorrhagic shock due to venous obstruction.[23, 24] Finally Rosenthal,[25] making the most extensive tests on standardized burns in mice, proved that plasma or serum is strictly equivalent to the same quantity of sodium salts in noncolloid solution, and also is equally effective whether given by vein or stomach or intraperitoneally. The aforementioned experiments[5b, c] went farther, by producing shock of graded severity and proving that saline solution cured animals which were too severely injured to be cured by plasma. The therapeutic advantages of saline solution are that it is more conveniently and abundantly available, it can be tolerated safely in larger amounts, and, while it dilutes a concentrated blood, it also passes most rapidly into the tissues to supply their specific need for fluid and electrolytes.

Much incompleteness in this work obviously needed to be filled out. The awakened interest in fluids to replace plasma led to one and perhaps two preeminent contributions.

One of these was the work of Rosenthal, already mentioned, which ranked various salts of sodium as essentially equivalent, but with a slight preference for the lactate. Fox,[26] adopting Rosenthal's methods, used the lactate with conspicuous success in the clinical treatment of burns, but he also, with Keston, confirmed the fact that practically 100 per cent of mice with standardized burns are saved by plain isotonic solution of sodium chloride. Another step was to overthrow the basis of the plasma treatment, by proving that the protein content of the edema fluid in injured regions is derived from breakdown of the tissues rather than from migrated plasma, thus fluid but not plasma protein needs to be supplied for this purpose. Most important therapeutically, however, was Rosenthal's introduction of the oral administration of sodium salts. Intravenous injections are needed, sometimes in very large amounts, but a more normal and less risky adjustment is obtained when as much as possible of the required salt solution is absorbed from the bowel. The Mylon Winternitz group have ascribed greater specific virtues to the succinate and fumarate of sodium, but there is no general agreement among workers with varied methods.

It must still be admitted that the severest shock can be fatal in spite of any or all of these methods. Attention should therefore be directed to the findings of the Moyer Coller group[18] as perhaps embodying a further preeminent contribution. By scalding anesthetized dogs by immersing two thirds of the body in water at 85 C for thirty seconds, they produced shock which was fatal in a little over five hours. "Loading with plasma was surprisingly ineffective," but so also was isotonic solution of sodium chloride. Intravenous injections of Ringer lactate solution were more beneficial, but the longest survival was obtained with saline–sodium bicarbonate solution. The difference between these workers' results and mine is found only in the timing of dosage. Ninety minutes before scalding, the Moyer Coller group "loaded" the animals with a single intravenous injection of one of the various salt solutions to the extent of 10 per cent of the body weight, or with 2.5 per cent of plasma. I have previously observed that injections of saline solution prior to injury have little or no prophylactic value, but this is not the way shock is treated clinically and not the way to get the best results. Other authors have made the mistake of comparing only equal volumes of plasma and salt solution. Therapeutic conclusions should be based on comparisons of the optimal results obtainable with each fluid. In the previously mentioned experiments,[7] the method consisted in injecting isotonic solution of sodium chloride in such quantities and at such intervals as would best control hemo concentration as judged by red cell counts. With this plan there can be no doubt of the great lengthening or actual saving of life with saline solution. The plasma for comparison was given in two ways, either in identical quantities with the saline solution or in such smaller quantities as would give the same control of red cell counts, and in each way it was inferior to saline solution. Workers having facilities can devise more accurate standards of control, probably based on plasma composition or plasma tissue equilibrium, but the benefit of properly spaced fractional doses[10] is certain. Nevertheless in the most severe shock death occurs inevitably in spite of injections of any kind of plasma or salt solution, precisely as the Moyer Coller group have stated, either from the shock itself or from the circulatory failure and pulmonary edema caused by the large fluid volume used to combat the shock. This is where their essential contribution appears, namely that animals of this class can be saved by combining administration of saline–sodium bicarbonate solution by stomach with transfusion of defibrinated blood. Reasons are given for objecting to either citrated or heparinized blood. With this new method, hematocrit values as high as 75 to 80 per cent were found not detrimental. Since anoxia is the specific cause of death in shock, and since mere administration of oxygen has failed to benefit, it seems an attractive theory that the polycythemia without excessive concentration of plasma proteins may furnish a means of additional oxygen transport. It might then be of interest to try whether a suspension of red cells in saline solution[28] may serve the purpose as well or better. But the assertion of these authors that dogs with burns of such severity can be brought safely not only through shock but through the "toxic" after-period (one hundred hours' survival being equivalent to permanent recovery from this standpoint) is worthy of the utmost attention and testing. If confirmed, it is the farthest advance yet made in the fluid therapy of burns and other shock.

MEMORANDUM OF SHOCK COMMITTEE

A recent official memorandum[16] epitomizes information on the treatment of burns by administration of fluid, properly emphasizing the sharp distinction between the initial shock crisis of twenty-four to forty-eight hours and the subsequent period of convalescent or roborant treatment. Although carrying the weight of official authority, the document may be somewhat one sided by reason of the fact that all its authors until recently accepted the colloid theory without question, and that no originator of any of the new therapeutic advances has been admitted to membership in the Shock Committee or at least to participation in such an official pronouncement. The advances mentioned have only lately constrained the Blalock group to abandon doctrines which, as shown by the preceding review, were practically all wrong and mostly opposite to the truth. The immediate military importance of the problem may therefore be pleaded as a reason for comments from an unofficial progressive viewpoint.

(*a*) The total fluid recommended by the Committee for severe burn shock consists of 2,000 cc. of plasma, 4,000 to 10,000 cc. of salt solution, and an additional 2,000 to 3,000 cc. of either salt solution or water. This is the first intimation of acceptance of the six year old saline therapy by the Shock Committee or other representatives of the Committee on Medical Research or the National Research Council. This is a beneficent advance, because the colloid error cost high in lives. The huge amounts of fluid actually needed in shock and burns, as previously demonstrated[5, 26] and now endorsed by the Committee, could not be given with the necessary rapidity in the form of plasma even if the plasma were available. The old treatment of giving the supposedly specific plasma, usually in scanty supply, and avoiding salt solution for fear it would wash protein out of the circulation according to all the old textbooks,[14, 56] was obviously responsible for many unnecessary deaths. It is unfortunate that wounded and burned soldiers during most of the present war were treated according to this inheritance from the first World War, and that a large proportion of practicing physicians now receive their first official information of the mistake.

(*b*) The segregation of this small fraction of plasma from the other fluid under the special label, "to restore blood volume and to treat shock," appears as an effort to salvage respectability for a discredited theory, contrary to the facts of the last six years. The latter half of this statement implies that the only specific virtue for shock is contained in the small amount of plasma protein, and this is now known to be untrue. As has been explained in paragraph 5, the essential physical process in shock is the edema of injured tissues, and since former ideas of the protein character of this edema have been disproved, the large volume of electrolyte solution which supplies this tissue demand must be regarded as the specific shock treatment and any other designation is unscientific. This wrong theoretical teaching, especially in a compend for beginners, can sometimes result in mistaken practice, as will be noted later in this report.

(*c*) The first half of the statement, "to restore blood volume," might refer to a complication or to shock itself. A complication in the form of external or interstitial hemorrhage or massive blood destruction creates a demand chiefly for red cells, plasma being only slightly superior to saline solution for this purpose. With acute bleeding to the extent of 45 to 70 per cent of the blood volume of dogs,[27] saline solution alone reduced the mortality from 84 to 58 per cent (even though used in insufficient quantity); heparinized plasma saved all animals and citrated plasma in the required quantities was toxic. But red cells suspended in saline solution are superior to heparinized plasma for hemorrhage.[28] As regards burns and shock, Rosenthal's mice did not require plasma to maintain their blood volume, and reference may be made to paragraphs 7 and 9 above, for proof that there is no difficulty whatever in maintaining blood volume with saline solution.

(*d*) Except for such hemorrhagic complications, the typical condition in shock, and particularly in burns, is hemoconcentration, varying according to the degree of shock. Rhoads [29] reported a case of severe burn in which intravenous injection of 5 liters of saline solution in nine hours did not suffice to prevent a rise of the hematocrit reading to 77 per cent. The logic of injecting additional protein into an already superconcentrated blood requires no comment. One reason for the superiority of saline solution in emergency treatment lies in its more rapid and efficient dilution of the excessively concentrated protein.

(*e*) Even in cases of depletion of total proteins or excessive administration of fluid, the incessant inculcation of fears of plasma protein dilution by saline solution in the crisis of shock is unwarranted. The aforementioned experiments [28] with washed red cells illustrate the previously proved [5c] ability of saline solution to maintain circulatory volume even with severe hemorrhage. The only edematous danger in uncomplicated shock is the congestion and edema of the lungs, which (contrary to the apparently prevalent supposition) is due not to deficient osmotic attraction in the blood but to circulatory breakdown. A normal animal can tolerate an amount of salt solution corresponding to 35 liters for a 70 Kg. man, intravenously injected as rapidly as 350 cc. per minute.[30] Injection of a far smaller amount of plasma will cause death from plethora with pulmonary congestion. The shocked organism, with general capillary permeability retained though not increased, and with extra permeability in the injured region, can be saved by the "dilution of plasma proteins to the edema level," against which the Committee warns; but in proportion as the injected fluid contains protein this safety valve of edema is clogged. While a great excess of fluid can be dangerous, animal experiments leave no doubt that the danger is much less with saline solution than with an equal excess of plasma.

(*f*) The foregoing reasons explain why saline solution is the best treatment in the terminal collapse of shock, as already proved experimentally (paragraph 6). This is where the teaching of students to regard plasma as the specific for shock can still cost lives.

The fact that extra protein is actually flushed out of the circulation by a large volume of any kind of salt solution in no way militates against the use or the benefit. The possible improvement by addition of blood or red corpuscles has been discussed in paragraphs 6 and 9.

(*g*) There is no proved basis for the advice that acidosis must be combated with alkali. Rosenthal's comparisons of sodium salts did not show differences of effectiveness according to alkalinity. The Mylon-Winternitz experiments indicated no differences in therapeutic results according to the presence or absence of acidosis. The role of sodium chloride in the maintenance of acid-base balance in the body is well known, and Joslin's notable success with plain isotonic solution of sodium chloride in the severe acidosis of diabetic coma (which also may be attended by anuria) seems to disprove the necessity of alkali for the comparatively trivial acidosis of shock. Exudates contain both the bicarbonate and the chloride of sodium, and the compensation for this migration may be the simplest explanation of the benefit of administering the mixed salts. Conceivably also the needed sodium may be best utilizable by the injured protoplasm in a neutral or alkaline solution or in some organic compound rather than the chloride. There is a need of clear experimental proof, first, whether the results obtained with plain saline solution under optimal administration can actually be improved on with any other salts; second, which of the present conflicting claims regarding bicarbonate, lactate, succinate, etc., is correct.

(*h*) In shock complicated by severe malnutrition, dextrose (*d*-glucose) solutions of 10 per cent or higher provide food with more or less fluid, or in severe dehydration 5 per cent dextrose solu- can supply fluid parenterally without adding to a possible excess of salt. In a simple shock crisis, however, personal experiments have indicated the futility or harm of such attempts to improve strength or assist hepatic function. Dextrose thus used is theoretically objectionable on the same grounds as amino acids, which also have been recommended by some writers. Dextrose causes a moderate and amino acids cause a marked increase of metabolism, which means an extra demand of the tissues for oxygen in this state of anoxia. The average individual suddenly plunged into acute shock needs to have his metabolism fall to a minimum fasting level in order to reduce the tissue demand for oxygen, the principle being the same as in hypothermic treatment. Animals in advanced shock can easily be killed by injections of dextrose in aqueous solution, presumably through dilution of the vital electrolytes. All writers in manuals of the National Research Council lump dextrose and salt solutions under the name of "crystalloid" solutions, supposed merely to relieve dehydration, with no perception of their utterly different status.

(*i*) All are agreed that the end of the crisis marks a transformation in therapeutic needs. This is the time for every kind of enteral and parenteral feeding, dextrose, amino acids, vitamins, etc., which can now be assimilated, and blood transfusions for anemia if necessary. No organism is injured by or dies from protein deficiency in the crisis of uncomplicated shock. But in the post-shock stage the specious argument of replenishing depleted body proteins has greatest force, and this is where the Committee admits that injections of plasma are inconsequential for this purpose.

OTHER TREATMENTS OF SHOCK

The Committee's memorandum, limited to fluid and nutrition, makes only cursory mention of sulfonamide compounds and penicillin as additional therapeutic agents. Our group believe not only that refrigeration should have been included in this incidental mention but also that it was the duty of the Committee or the Council long ago to have supplied full, adequate advice on this treatment and the necessary equipment, especially for the armed forces. Before I proceed to this phase of the subject, brief mention should be made of one other specific shock treatment, namely local pressure.

In England, casts or compressive bandages for wounded limbs were introduced by Patey and Robertson[31] in 1941. The purpose of limiting exudation is the same as that of employing occlusive dressings for burns. The principle is so sound and the adoption has been so widespread that no comment is necessary except concerning incidental disadvantages. An effective pressure necessarily conduces to necrosis of tissues with low vitality or poor circulation, and under the incubating warmth of the thick dressings aseptic measures or bacteriostatic drugs fail to check the sloughing, putrefaction and toxic absorption. These considerations are akin to those which caused abandonment of the tight sealing of burned surfaces, and they may perhaps receive more attention with time.

Though the proof of the inhibition of shock and necrosis by low temperature and the aggravation by high temperature was published between 1937 and 1939, the tradition of warming shocked patients remained unchanged in the large institutions. Also, although the first announcements included shockless anesthesia of patients, continuance of the same opposition prevented wider trials, until in 1941 a demonstration in the City Hospital[3] of New York led to adoption of the method by numerous independent surgeons.

The benefit of reduced body temperature for shock was discovered by Temple Fay[33] in clinical observations begun in 1940 and announced in a panel discussion in 1942. The unanimity of authoritative opposition was such that Fay, with his pioneer work already under attack in other directions, did not press the contention further but continued to use the method routinely.

Blalock's repetitions of these procedures were open to the objection of faulty planning, whereby the animals all died, this resulted in misleading conclusions. Regarding treatment of shock by local refrigeration the conclusion[34] was that "lowering of the temperature of the part after the damage had been caused did not appear to exert a favorable influence." The summary[3] concerning reduction of body temperature stated: "The application of cold does not increase the chance of survival but is accompanied with a lengthening of the survival of an animal with a low blood pressure." "It should be emphasized that this paper does not offer evidence to the effect that the time honored custom of warming the patient in shock is a bad one. Neither is it proved (or believed, for that matter) that measures to reduce below normal the body temperature of patients in shock should be initiated." Abbreviated references by a number of institutional writers convey the impression that Blalock was a pioneer in the development of hypothermia, but the official policy[14c] toward it has been in accord with the stated conclusions.

The rationale of systemic hypothermia is clear, in the constriction of superficial vessels so as to provide more blood and oxygen for vital organs, in a reduction of exudation and a probable decrease of toxin formation, and especially in a reduction of total metabolism. Muddled thinking has resulted from the fact that shock is aggravated by exposure, which depletes body reserves, and shivering, which increases metabolism. The therapeutic purpose calls only for maintenance or support of the natural reaction to shock, with light covers or mild artificial cooling according to the environmental temperature, and particularly with avoidance of shivering or any sensation of discomfort. Recent work suggests that rectal temperatures of about 96 to 94 F. may be optimal. Scattered clinical observations[36] and abundant animal experiments[37, 38] leave no doubt that the difference between high and low environmental or bodily temperatures can amount to the difference between life and death.

The more radical hypothermia which can be applied locally to injured parts has the unique property of halting metabolism and simultaneously inhibiting pain, shock, exudation, infection, devitalization of tissues and formation and absorption of toxins. That this control of shock can be sufficient to save life is confirmed by unanimity of recent writers, experimental and clinical.[38, 39, 40] Besides its independent action, it is noteworthy that reduced temperature can thus remedy all the aforementioned defects in the local compression treatment and can reinforce the benefits. According to conditions and facilities, the treatment may range all the way from refrigeration near ice temperature to the mild cooling obtained by exposure, wetting of dressings with water or alcohol, or an air current from a fan. High temperature is inexcusable in any kind of shock treatment. From every standpoint the need is accentuated by hot weather or a febrile complication.

REFRIGERATION FOR TRAUMA, INCLUDING MILITARY WOUNDS

Wider uses of refrigeration have been and are being discovered by a number of observers, who are included in the aforementioned category of nonrepresentation in any official body. These advances pertain to conditions which often involve shock but also emphasize the control of pain, infection, intoxication and necrosis.

The rapid transformation of nearly moribund patients with infected gangrene by simple packing of the limbs in ice[32, 39] suggests a similar treatment for any dangerous infection of a limb. Theoretically, the apparent high oxygenation of blood and tissues under refrigeration should recommend it especially for anaerobic invasions. Confirmation is known in several unpublished cases, but apparently very few in military service have received the advantages as described by Ferguson.[41]

For embolism or thrombosis, refrigeration was first used[42] in the late stage of threatened gangrene to preserve a leg for several days or weeks until a weak patient could be strengthened for operation. In the early acute stage it may be expected to extend the time and improve the results of embolectomy.[1] Similar uses have been demonstrated for controlling pain, shock and infection and preserving limbs after trauma.[43] The time for which gangrene was thus held in abeyance has ranged from fifty-eight hours[44] or two weeks[45] to one month,[16] and the surgeons have made it plain that life could not have been saved without this interval for treating other injuries and building up strength. Since medical officers on active service can seldom keep informed on medical advances without instructions from the responsible authorities, there have been no reports of the use of this method in the American armies, the naval reports[46] are few and recent, and chance examples[1, 47] illustrate the widespread lack of information. A private communication, however, states that the growing use of refrigeration is credited with saving lives in the latest Pacific campaigns.

The known fact that the thrombosis following severe freezing ordinarily represents not a direct killing of tissues by cold but a secondary effect of thrombosis has served as the basis for an important therapeutic demonstration,[48] namely, that prevention of thrombosis by three or four days of heparin treatment may bring about complete healing where otherwise sloughing would be hopeless. The usefulness of reduced temperature is thus augmented, for often the only way to prevent thrombosis or necrosis in the interval before heparin can be obtained will be to thaw the part to only a few degrees above freezing. Also the neurovascular consequences of either frostbite or immersion foot seem to respond best to prolonged cooling[39, 49] at skin temperatures in the neighborhood of 55 to 65 F., in combination with other treatments.

The simultaneous inhibition of pain, shock, infection, tissue devitalization and toxic absorption seems to recommend refrigeration as an ideal treatment for burns.[50] A single trial may convince anybody that the best emergency treatment for any burn is to plunge a limb into icewater or the coldest water obtainable or to apply ice to a trunk area. The pain and inflammation are most promptly relieved in this way, and the subsequent healing is most favorably influenced. Kross's case[51] showed a control of intoxication precisely similar to that in infected gangrene and beyond anything obtainable with bacteriostatic drugs, because the latter do not inhibit all kinds of bacteria and have no influence on tissue necrosis or the absorption of bacterial or tissue toxins. The control of pain without opiates, the elimination of destructive cleansing and time-wasting asepsis, the amelioration of both shock and the postshock toxic state, and the unprecedented ultimate saving of tissue are among the claimed advantages. Any failure to reproduce these results will generally be of technical origin, since experience is an asset and prolonged maintenance of constant temperature without too much weight or encumbrance requires either watchful nursing or use of the special automatic electrical apparatus.* The technic may be summarized as beginning with refrigeration to near ice temperature (under protection of a single layer of petrolatum gauze) during the acute crisis of shock and intoxication for perhaps two or three days, after which the temperature is gradually raised as high as possible without causing a return of symptoms. In Kross's case this meant a skin temperature in the neighborhood of 60 F. for the greater part of eleven weeks. Though the treatment is simplest with the accurate and labor-saving apparatus, it can be managed aboard a warship or in any land location where ice is available. An added advantage is that this method can be combined with any or all other treatments of burns. Not only has a method of such promise for such a large class of casualties remained unknown and unused among the American armies, but it has been impossible to obtain the slightest aid or trial during four years of war.

Ice applications are proposed[39] as a

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* Manufactured by the Therm O-Rite Products Company, Buffalo, N. Y.

valuable routine in the treatment of snake bite and other venomous bites and stings, because of the control of pain, reduction of necrosis and toxic absorption and the promotion of discharge with incision and suction, with no tourniquet unless the limb is to be amputated. Retardation of absorption is illustrated by the injection of penicillin in chilled areas,[52] resulting in maintenance of effective concentrations in the blood for six to twelve hours and economy of the drug. The reported benefits[53] of the use of ethyl chloride spray for sprains may conceivably be equalled by regular refrigeration, with the advantage of superficial or deep penetration as desired. Many important further applications of refrigeration await only the opportunity for research, but there are indications[54] that the new developments are likely to be made in Russia because of the opposite official policy.

Shock is a metabolic condition which merely happens to have most often a surgical cause; therefore, the great mass of surgeons have been unable to judge the validity of theories offered by reputed authorities on such recondite matters as colloid therapy. But in their prompt adoption of a practical method such as refrigeration, surgeons have displayed an admirable competence of individual judgment against authoritative opposition. The individual initiative of medical officers of higher or lower rank has been the means of finally introducing refrigeration into the fighting services, with the recent support of official instructions in the Navy. The former arbitrary objection in other quarters that refrigeration was impracticable near the fighting fronts and especially in the tropics has been answered by the proved necessity of refrigeration preeminently in the tropics, because of the deleterious influence of the heat upon wounds and shock; and means for treatment have had to be improvised from the facilities provided for icing of food and drinks.

CENTRALIZED AUTHORITY

The great accomplishments of a free medical profession mobilized for a temporary emergency are already used as an argument for a permanent installation of such authority over practice and especially over research. The growing monopolistic control over medical information and policy must be evident to anybody who will notice the interlocking positions of the same few individuals in academic, governmental, scientific society, editorial and financial bodies. Other papers[3, 39] cited the stifling of the present independent research by this narrow domination of both public and large private funds, and also the secret policy of certain committees in dividing funds exclusively among their own members or a few favored institutions. It appears undeniable that if this work had emanated from within the select circle it would have received official welcome instead of suppression, funds would have been plentiful, and the facts of priority would have been more justly acknowledged in institutional literature. It seems scarcely accidental that this original work has received recognition by independent writers on either fluid therapy[18, 24, 25] or refrigeration,[39] while another group especially under Committee auspices make similar references when their reports are adverse[4, 19, 21, 22] but never when they are confirmatory in regard to either saline therapy[15, 23, 26] or refrigeration.[38, 55, 56] Under scientific freedom, the human fallibility of any individual or small group deserves charitable courtesy; but when such a group wields a power to crush other workers and to impose its errors at a cost in human life, exposure becomes the only means of reform; and yet the monopolization explained above assures the most impressive presentation of the official case while embarrassing facts can reach only a few readers through *a dwindling number of journals*. The facts are not creditable to the system of machine science under remote control. An unrevealed fraction of over $15,000,000 of public funds expended by the Committee on Medical Research during three years of war crisis has been devoted to the important military problems of shock and refrigeration, without producing a single new therapeutic idea in either field. On the contrary, the Committee have held back new methods from use in the American armies, as shown by *comparison* of their own publications ** with what they have recently been forced to admit.[16] Without reference to the opposite advice of two years ago, this first official intimation of the discarding of the colloid anachronism and the adoption of saline therapy was *promulgated just after the close of the* German war.

CONCLUSIONS

As a result of advances in knowledge within the past six years, it appears to be finally agreed by official authorities that the fluid migration in the form of tissue edema or exudation, which is the essential physical process in shock, requires *a fluid supply predominantly in* the form of salt solution, and that the former colloid theory and highly advertised plasma therapy resulted in unnecessary deaths. Since the great majority of cases of shock are complicated by hemorrhage or other forms of loss of blood, the newer information suggests that the concept of fluid therapy can probably be simplified and adapted to the needs of individual patients on the basis of the following axioms. The specific for shock is salt solution. The specific for loss of blood is transfusion of blood, with plasma as a convenient but inferior substitute. The possible benefit of combating anoxia by addition of red corpuscles together with prevention of plasma concentration appears as an attractive theoretical deduction from the Moyer-Coller work.

There is *ample proof that proper con*trol of the environmental or bodily temperature and also the local temperature of injured parts is beneficial, sometimes to the extent of saving life. Local refrigeration is also capable of saving life or limb in a large class of traumatisms or infections, through its unique property of simultaneously inhibiting pain, shock, infection, necrosis, and formation and absorption of toxins. The treatment of burns is the newest development for which this method seems ideally suited.

** Instructions loc. 57 in "Military Surgical Manuals, National Research Council", in 1943. "The application of warmth has become a well established part of the treatment of shock" *Detailed advice is* given for the use of blankets, hot water bottles, electric light cradles, etc.

The following typical statements on fluid therapy may be compared with *those just published*[16] by the same group "It has been found that the giving of solutions of crystalloids, in the presence of capillary damage or of a fall in blood pressure from any cause, results not only in the *escape of most of this fluid* from the blood stream into the tissues, with resulting edema, but also in an additional loss of plasma protein" "It may be stated more precisely that solutions of crystalloids *never should* be administered to a patient who is in a condition of shock and whose total plasma protein has undergone severe reduction" "Solutions of crystaloids such as saline and glucose solutions have *only a temporary effect* . Administration of plasma or serum, then, is the best treatment for burn shock" Examples are given of burn shock with fluid therapy limited to undiluted plasma in amounts of 2,500 cc. in five days to 7,350 cc in fourteen days

Refrigeration had already received medical endorsements both in this country and abroad,[58, 59, 60] but *it is totally ignored in this and all other publications* of the National Research Council and the Committee on Medical Research

Combinations with other treatments are possible as may be desired.

The record of the official scientific advisers of the armed services is criticized as a warning against the perpetuation or extension of bureaucracy in medicine. Reversal of a fatal policy on fluid therapy was finally accomplished after one war was ended. Continued neglect of the various uses of reduced temperature has cost and is costing losses of life and limb, according to competent and impartial surgical testimony. Open protest is the only recourse after scientific arguments have been ignored. In any nonmedical war activity, reform would be accompanied by reorganization.

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RESUMEN

Como resultado de los conocimientos adquiridos en los pasados seis años parece ser que las autoridades médicas oficiales coinciden en estimar que la migración de líquido, en forma de edema tisular o exudado, que constituye en definitiva el proceso físico esencial del shock, requiere un aporte de fluido predominantemente en estado de solución salina; y asimismo se estima que la antigua teoría coloide y la tan pregonada terapéutica con plasma acarrea como resultado muertes innecesarias. Teniendo en cuenta que la mayoria de los casos de shock se hallan complicados por hemorragia o otra forma de pérdida sanguínea, la información más moderna que se posee sugiere una simplificación de la terapéutica con líquidos y su adaptación a las necesidades individuales de cada paciente sobre la base de los siguientes axiomas: La solución salina constituye el elemento específico en la terapéutica del shock. El método específico para remediar las pérdidas sanguíneas está representado por la transfusión de sangre, considerándose al plasma como un substituto conveniente pero inferior a la sangre. De los trabajos de Moyer-Coller parece deducirse una conclusión teórica de interés, a saber, el posible beneficio de combatir la anoxia mediante la adición de glóbulos rojos conjuntamente con la prevención de concentración del plasma.

Existen pruebas suficientes para afirmar que el control adecuado de la temperatura ambiente y también de la temperatura local de las partes lesionadas ejerce un efecto beneficioso de tal índole que se traduce en salvar la vida del paciente. La refrigeración local constituye también un procedimiento de salvar vidas o extremidades en una extensa variedad de traumatismos o infecciones, actuando simultaneamente por su propiedad singular de inhibir el dolor, evitar, el shock, infección, necrosis y la formación y absorción de toxinas. La aplicación ideal de este método parece corresponder a la terapéutica de las quemaduras. Segun sea de desear, este procedimiento puede combinarse a otra clase de terapéutica.

Se discute aquí la posición de los consejeros científicos oficiales de las fuerzas armadas como una advertencia contra la perpetuación o extensión de la burocracia médica. La equivocada posición de mantener una erronea terapéutica fué corregida sólo al final de la guerra. El haber olvidado, de un modo continuo, las diversas aplicaciones de la reducción de la temperatura ha costado y sigue costando pérdidas de vidas y de extremidades, segun testimonia la opinión quirúrgica competente e imparcial. Sólo queda la protesta pública cuando todos los argumentos científicos se dejan pasar ignorados.

RÉSUMÉ

Le progrès des dernières six années nous enseignent que la migration de fluides sous forme d'oedème des tissues ou d'exudation est la cause essentielle du choc et demande qu'on fournisse aux malades des quantités de fluide sous la forme de solution saline. La théorie colloide et le plasma sont responsables d'un nombre de décès. Puisque dans la majorité des cas le choc est accompagné d'hémorrhagie, le traitement spécifique

pour le choc est l'infusion saline. Le traitement spécifique pour la perte de sang est la transfusion de sang. Le plasma est un substitut commode, mais de valeur inférieure. Le bénéfice possible de combattre l'anoxie par l'addition de globules rouges avec prévention de concentration du plasma est une théorie attractive résultant des recherches de Meyer-Coller.

Il y a des preuves suffisantes que le contrôle de la température du corps et aussi le contrôle local de la température des tissus lésés a une influence bienfaisante et parfois sauve la vie du blessé. La réfrigération locale peut sauver la vie et un membre dans une grand nombre de traumatismes et d'infections. Cette réfrigération contrôle la douleur, le choc, l'infection, la nécrose et l'absorption des toxines. Les brûlures peuvent être traitées avantagement par ce procédé. Il est parfois désirable d'adjoindre d'autres traitements à la réfrigération. Il faut lutter contre la perpétuation et l'extension de la bureaucratie gouvernementale médicale. On a déja abandonné plusieurs méthodes de thérapie fluide qui n'avaint donné que des résultats contestables. D'avoir négligé de faire usage des différentes méthodes d'abaisser la température a entrainé la mort et la perte de membres d'après le témoignages de hautes autorités chirurgicales. Il faut protester ouvertement quand les arguments scientifiques sont ignorés.

Свод

Повидимому, в результате научного прогресса за последние шесть лет, оффициальные авторитеты пришли к заключению, что перемещение жидкости в форме отека или эксудата, которое является главным физиологическим процессом при шоке, требует снабжение жидкости, главным образом, в форме салина, и, что прежняя коллоидальная теория и пользующаяся широким распространением плазмотерапия причинили излишнюю смертность. Так как большинство случаев шока осложнено кровотечением или другими видами потери крови, то более новые данные указывают, что идея терапии жидкостями может быть упрощена и приспособлена к нуждам индивидуальных больных на основании следующих аксиом:

1. Нормальный соляной раствор является специфическим средством при шоке.
2. Перелив крови является специфическим средством при потери крови, плазма являющаяся удобным, но определенно низшим суррогатом. На основании работ Moyer-Coller, при борьбе с аноксией, возможная польза от прибавления красных кровяных телец вместе с предотвращением концентрации плазмы является интересной теоретической дедукцией.

Вполне доказано, что правильный контроль наружной температуры или температуры тела, а также местной температуры поврежденных частей, является очень благотворным, иногда даже до степени сохранения жизни. Местное замораживание также может сохранить жизнь или член тела в очень многих случаях травматизма или инфекции, главным образом благодаря его особенности одновременно понизит боль, шок, инфекцию, некроз и образование и абзорпцию токсинов. Самым новым применением этого способа является лечение ожогов, к которым эта метода идеально подходит. Комбинирование с другими методами вполне возможно, если это желательно.

Отчет деятельности оффициальных научных военных советчиков очень критикуется, как предостережение против сохранения и распространения бюрократии в области медицины. Перемена рокового курса жидкотерапии была, наконец, достигнута после конца одной войны. Беспрерывное пренебрежение разных применений пониженной температуры принесло большую потерю жизни и членов тела, как показывает компетентный и беспристрастный хирургический опыт. Когда научные доводы игнорируются, то единственным средством является открытый протест. В немедицинской военной деятельности реформа была бы сопровождена реорганизацией.

A Method of Inguinal Herniorrhaphy

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THE more universally used hernioplasties employ the inguinal ligament as the anchoring structure. To use Poupart's ligament thus is absolutely wrong, not only because it has been found to be of unpredictable strength, but because its use distorts the oblate ellipsoid, which is precisely what takes place in the abdominal cavity during periods of increased intra-abdominal pressure. In the inguinal region the ellipsoid is circumscribed by the pelvic ridge, as observed at the ileopectineal line. Hence, as shown in figure 1, if the repair for an inguinal hernia uses Poupart's ligament, the normal ellipsoidal outline is disrupted by superimposition of a trihedral space. The boundaries of the trihedron are: the pubic tubercle inferiorly, the inguinal ligament laterally, the spermatic cord superiorly, Cooper's ligament posteriorly, and the abdominal wall anteriorly.

From mechanics one knows that such a distortion of a pressure sphere, and so one may 'consider the abdominal cavity for all practical purposes, leads to an increased unit pressure on this trihedral area, whereas elsewhere in a sphere the unit of pressure intensity or force is equal. Now if the straight side defect of the sphere is nonrigid, bending will occur and the maximum force will be exerted at a point "P," which is one-third the distance from "B" to "A". The actual force at "P" will equal the sum of the pressures present on "A–B".

For the sake of clarity let us consider some figures. The intra-abdominal pressure during forceful exertion was found to average 73 mm. of mercury. Hence, we can state that at any point on the circumference of the abdominal cavity there exists a force of 73 mm. of mercury per square millimeter. However, if this man has undergone a classic herniorrhaphy with the previously referred to trihedral projection, the distorted portion is subject to additional

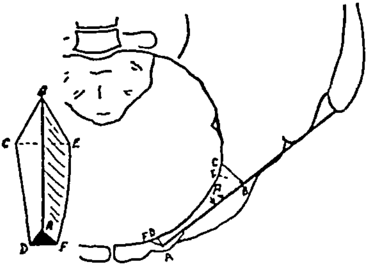

Fig. 1. Diagrammatic drawing showing the relations between the structures utilized in the ordinary operations for repair of inguinal hernia.

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pressure. The hypotenuse or inguinal ligament portion of the trihedron, in a series of cases, averaged 62 mm. in length. It will be recalled that a straight side to a sphere is subject to the sum of the pressures exerted on this side; therefore, the pressure would be equal to 73 × 62, or a force of 4,536 mm. of mercury. This man's hernioplasty walls would have to resist roughly 62 times the amount of pressure exerted elsewhere in the abdominal cavity. Or, to state it in another way, the force in the abdominal cavity would be equal to 2.9 inches of mercury, whereas in the hernioplasty wall the pressure would equal a column of mercury 15 feet high.

Let us view the problem from another aspect. It is generally agreed that properly repaired hernias recur as direct hernias. Dynamics tells us that the maximum force is exerted at "P," or one-third the distance from "B" to "A". Hence, the point of maximum force, "P," would be approximately 20 mm. from "B," which would place this point just a few millimeters caudad to the deep epigastric vessels. This is the precise point where direct hernias become manifest, and thus to predict this point by the application of dynamics would tend to strengthen our contention that etiologically the inguinal hernia presents little more than the application of the fundamentals of dynamics.

The indirect hernia is due to an embryologic defect of tunica closure. The peritoneal out-pocketing does not seal smoothly at the orifice, and there remains a circular cylindroid projection, the apex of which is located at the sphincter formed by the encircling fibers of the internal oblique muscle, as described by Zimmerman. Hence, when this cone is converted to a single plane there is an equilateral triangle and the maximum force is exerted toward the apex. Actually, the force does not concentrate at one point but tends to expand the walls of the triangle. Each pressure wave will force a portion of the abdominal contents toward the apex, stretching the base until the circular cylindroid is converted into a prolate cylindroid and eventually a small portion of the abdominal contents overcomes the sphincteric action of the external oblique muscle and escapes. Hence, here again the mechanism is based on dynamics with an embryologic accident as the precursor.

There is still another variety of inguinal hernia. It is the saddle type, which owes its origin to the fact that as the indirect hernia develops the contiguous transversalis fascia is partially fixed and relaxed so that it is thrown into slight folds between the inferior margin of the internal ring and the pubic tubercle. When the abdominal cavity is under tension, the fixed portion of the transversalis does not tense and there is retained a variable trihedral defect. Again the factors outlined previously apply.

From our discussion, then, the ideal repair of an inguinal hernia must (1) preserve the original ellipsoid contour of the inguinal region, (2) completely eradicate all peritoneal projections, and, in addition, (3) provide a differential conduit for the transmission of the spermatic cord. The operative procedure that we propose satisfies these postulates.

The inguinal hernia is approached through a 5 to 8 cm. incision following the skin lines and placed midway between the pubic tubercle and the internal inguinal ring (fig. 2). The cord is approached in the usual manner except that the external oblique fascia is split not more than 1 cm. medial to the inguinal ligament. Whether there exists an indirect or a direct hernia, we believe in opening the peritoneum at the internal ring and reducing the sac through this approach, the reason being that on occasion a very ill defined indirect sac is missed and even though the direct sac is taken care of adequately the patient returns with an indirect hernia

After the sac is isolated, opened and pulled taut, the adhering structures are separated by both sharp and blunt dissection until the interior edge of the sac extends into the abdomen perpendicularly We consider this step of great importance, so that all peritoneal locules which might serve as nuclei for future hernial sacs are eliminated As for ligation of the sac, we use a method of our own design (fig 2) The sac is held taut, the abdominal contents visualized and a Furniss Clute clamp applied across the proximal portion of the sac The clamp is then closed and the corrugated sac transfixed with a straight needle carrying the suture This method has the advantages of speed, simplicity, positive closure and minimizing of devitalized tissue

The abdominal cavity is limited by the attachments of the transversalis fascia In our opinion this fascia demonstrates considerable qualitative variation in the inguinal region Hence, we are unwilling to depend on this fascia alone for support, and, furthermore, we hesitate to undertake massive fascial transplants routinely For this reason the medial portion of the cut external oblique fascia is attached to the ligament of Cooper This attachment is made by a series of interrupted sutures which take a small plicating bite in the extreme edge of the external oblique fascia, a plicating bite in the transversalis so that the latter structure is both tightened and strengthened, and finally a bite into Cooper's ligament to such a depth that a bit of periosteum is caught These sutures are placed at intervals of 0 5 cm along Cooper's ligament from the pubic tubercle to the ileopectineal eminence (fig 2) However, the actual extent of these sutures is variable and is based on a definite and precise indication That is, they are placed to a point where the dipped in edge of the external oblique muscle just approximates, but does not compress, the iliac vessels as they enter the femoral canal It is imperative that the iliac vein be observed for dilatation, since even slight pressure will reveal remarkable distal enlargement of this vein as seen in the wound If there is evidence of pressure the last suture is cut, and since these sutures are spaced in close approximation the situation will be corrected We have experienced no difficulty by accidentally including either the deep epigastric or the accessory obturator vessels in our sutures

After the medial flap of the external oblique fascia has been anchored, the small lateral flap is brought around beneath the cord and sutured to the external oblique fascia medial to the newly created ring This serves to enclose the cord snugly The remaining portion of the lateral flap of the external oblique fascia and inguinal ligament is attached similarly throughout its length unless the inguinal ligament is too tight and tends to distort the contour of the internal flap The cord is placed in the recently created trough, and the subcutaneous tissue and skin are closed

We fully appreciate the fact that this operation does not attempt to conduct the spermatic cord obliquely through the abdominal wall, and, furthermore, we question its necessity It is a maxim that external repair is inefficient for an opening in any wall that is subject to internal pressure Hence the inner surface must be repaired so as to prevent the gain of any mechanical advantage by the existing pressure. This, we believe, is accomplished in our herniorrhaphy (1) by proper disposition of the peritoneum and any existent projections, and (2) by preparing a carefully placed abdominal wall conduit which is bounded by the external oblique and transversalis fascias in addition to the intervening contracting internal oblique muscle, which compresses the cord against the bony pelvis and iliac vessels during intervals of increased intra-abdominal pressure.

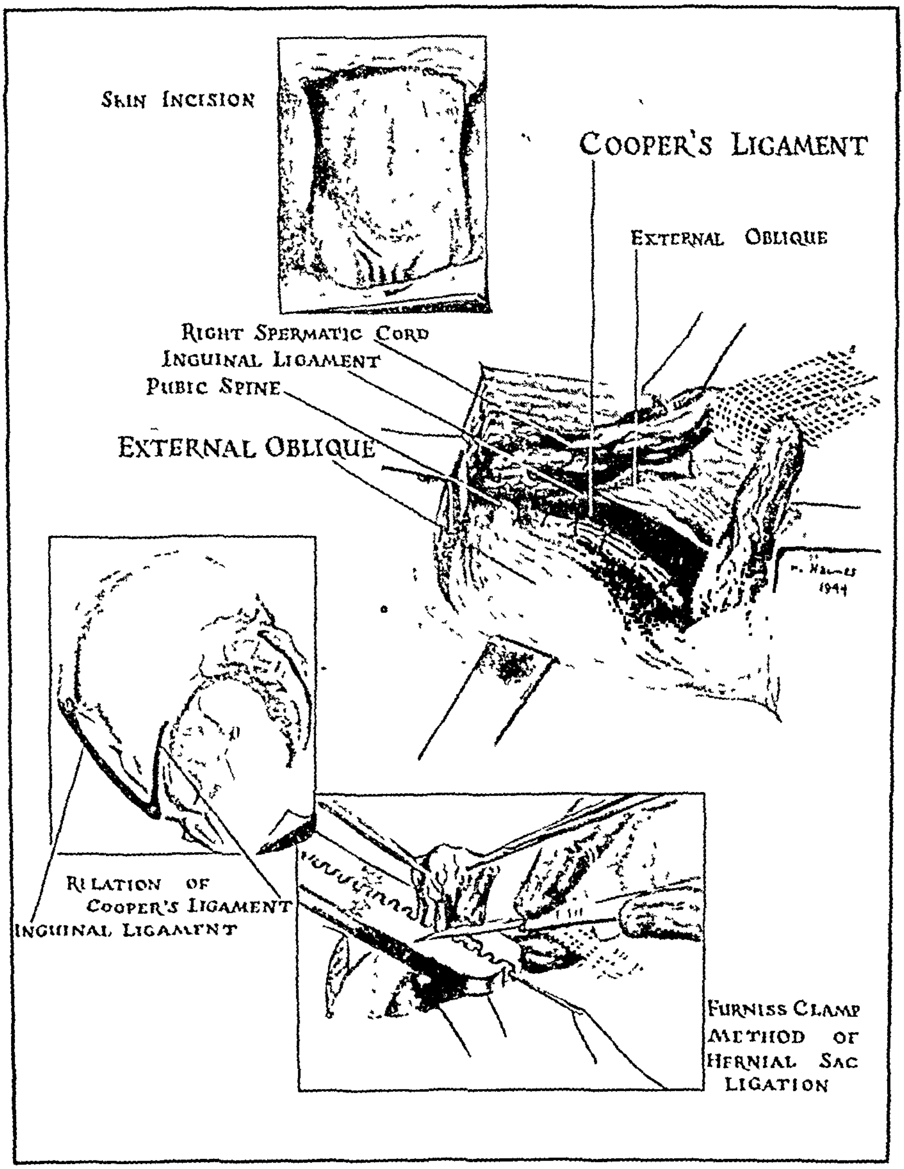

Fig. 2. The authors' method of repair of inguinal hernia.

The only troublesome factor experienced in this procedure is placing the final sutures in Cooper's ligament, since at this position the iliac vessels lie very close. However, the index finger of the hand opposite from that using the needle holder serves both to protect the iliac vessels from the point of the needle and to palpate Cooper's ligament at the point where it is several centimeters from the wound surface

We use cotton suture, no 8 white cotton spool thread to attach the fascia to Cooper's ligament and no 40 thread for all other sutures However, the suture material used is of no significance provided that the postoperative course is governed accordingly

On 89 patients we have executed 113 inguinal herniorrhaphies, 22 of which were for recurrent hernias In the entire group we experienced only 2 recurrences, both of which represented technical failures and took place in primary hernias Our first recurrence was early in the series, when we used only a single suture at the pubic tubercle, this suture failed and as a result of this defect there developed a hernia The patient was a 63 year old blacksmith who admitted that he returned to "light work" within thirty days postoperatively, the "light work" consisted of "sharpening plow shears" The second recurrent hernia developed in a 43 year old clerk who presented a direct hernia at the initial operation, with no indirect sac visualized Nine months later the patient returned with an indirect hernia with a definitely demonstrable preformed sac Of the 89 patients, 59 have been examined on several occasions, varying from four to twenty five months postoperatively, and 27 have been contacted by questionnaire alone Only 3 patients of this group could not be found It is of interest that none of the 22 recurrent hernias repaired recurred again The majority of the patients do hard physical labor, and their mean age is 36 4 years

This is certainly too small a series to permit any definite conclusions as to the value of an operative procedure, but in the light of these findings we feel that our observations on the etiology of inguinal hernia and the proposed operation merit consideration

RESUMEN

Los autores describen un método de reparacion de la hernia inguinal que llena los requerimientos que ellos estiman necesarios para una operación ideal Tales requerimientos son en resumen los siguientes (1) conservar el contorno original elipsoide de la región inguinal, (2) eliminar por completo toda proyeccion peritoneal y (3) proporcionar un conducto diferencial para la trasmision del cordón espermático En el método aquí descrito se emplea el ligamento de Cooper en lugar del de Poupart como la estructura de sostén Los autores han usado este procedimiento con buenos resultados en 113 herniorrafias en 89 pacientes

RESUMÉ

Les auteurs nous donnent une methode pour la cure de la hernie inguinale et nous enumèrent les critériums pour une operation ideale 1 Il faut conservar le contour original éllipsoide de la région inguinale 2 Il faut supprimer completement toute projection péritoneale 3 Il faut creer un nouveau conduit pour la transmission du cordon spermatique Dans leur méthode on utilise le ligament de Cooper plutôt que le ligament de Poupart pour prevenir toute recidive Ils ont employé leur procedé dans 113 herniorrhaphies sur 89 sujets et ont obtenu d'excellents resultats

Свод

Авторы описывают методу поправки грыжи, соответствующую их критериям идеальной опер[illegible] о

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Management of Swallowed Sharp Foreign Bodies

Report of Perforation of the Appendix by a Common Pin and of the Cecum by a Toothpick

LIEUTENANT COMMANDER MORRIS WEINTROB, MC, U.S.N.R.
AND
LIEUTENANT COMMANDER EMIL GRANET, MC, U.S.N.R.

WHEN a young child swallows a penny or a cherry pit, the family's equanimity is rarely disturbed. Even the oversolicitous type of parent is set at ease by the doctor's reassurance that there is no need to worry . . . that "the baby will pass it and no harm will come of it".

If the swallowed object is sharp, it cannot be dismissed so lightly. The lay mind does not so readily believe that it can possibly pass without some dire complication . . . even if at the time of the examination the patient appears to be without any appreciable discomfort.

"Will an operation be necessary? Won't it perforate the stomach or some part of the bowels? Wouldn't it be better to attempt to remove it before it perforates? If so, at what point is it more likely to perforate? Wouldn't it be wiser to remove it before it reaches that point? How serious is swallowing such an object? Is the mortality high?"

"Wouldn't the x-ray show it up even if it is a toothpick (or a chicken or fishbone)? What does one do to follow the progress of a foreign body that is nonmetallic?"

These problems, of course, arise only if one knows or suspects that a sharp foreign body has been swallowed. Unfortunately, too often no such history is obtainable until after the abdominal exploration (most often performed with some other preoperative diagnosis in mind) has unexpectedly led to the discovery of such a foreign body.

In one of the cases herein reported the appendix was perforated by a common pin, and in the other the cecum was punctured by a toothpick. In the first a definite history of the child's having swallowed a pin was available. In the second case a diagnosis of acute appendicitis was made, the patient giving no history of having swallowed a toothpick.

These 2 cases together with another that was encountered in the same hospital during the previous year, an instance of perforation of the cecum by a toothpick reported by Zieman,[1] led us to review the literature in the hope that such a study would enable us to formulate definite principles of management.

WILL PERFORATION OCCUR?

Although swallowed foreign bodies do not usually pass through the gastrointestinal tract without some damage, the latter may be slight and symptoms or ill effects be absent. If passage through the esophagus takes place, the object will usually proceed through the stomach.

In a series of 48 cases of ingestion of foreign bodies by patients with mental disease, Carp[2] found that 83 per cent of the objects passed through the gastrointestinal tract without any apparent damage. These included pins, nails,

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The opinions or assertions contained therein are the private ones of the authors and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

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needles, fishbones and sharp screws In 17 per cent of the cases the foreign body became lodged in some portion of the alimentary canal

McManus[3] described the perforation of a loop of bowel by a segment of wire 3 cm long that occurred in an incarcerated hernia Perforation under similar circumstances took place in 5 other instances in a series of 93 collected cases of intestinal perforation by ingested foreign bodies

PERFORATION OF THE APPENDIX

During ten years of pathologic work in Montreal, Canada, Osler is said to have encountered exogenous foreign bodies in the appendix but twice According to Fowler,[4] Hemick's experience in 3,750 autopsies was identical

Deaver[5] stated that he had found but 1 case of perforation of the appendix by a foreign body, that being by a common pin Reporting a case of his own and reviewing the literature up to 1912, Fowler noted perforation of the appendix in 48 out of 63 cases of swallowing of common pins

PERFORATION OF THE CECUM

The literature contains numerous reports of widely varying types of foreign bodies that have remained within the cecum without having perforated The cecum possesses little peristaltic action of its own Emptying takes place as a result of reverse peristalsis passing proximally from the ascending colon to the cecum This leads to compression of the latter organ, which in turn causes its contents to be forced distally into the ascending colon Normal peristalsis in the ascending colon then propels the intestinal contents through the hepatic flexure toward the transverse colon Metallic substances of "some weight," especially those with blunt ends that render perforation less likely, are not so easily moved by this play of mechanical forces and thus make up the greatest number of foreign bodies that remain for years within the cecum Rosenstein[6] removed multiple metallic pieces, some measuring 17 cm in length, from the cecums of mental patients who seemed to possess a voracious and capricious appetite for hardware

On the other hand, perforation of the cecum by a wire nail 3 inches (7 5 cm) long was described by Pike[7] Most uncommon of all, perforation of the cecum by a fecalith was reported by McCreery[8]

Perforation by a toothpick was reported by Vestal,[9] McLanahan,[10] Wallis,[11] McClintic,[12] McManus,[13] Melville[14] and Barrett and Leader,[1] which made a total of 10 such cases appearing in the literature from 1912 to 1942 The toothpick appears to have been the most common article causing perforation of the cecum

Prat[15] described a number of cases in which pins were ingeniously removed from the cecum by manipulating them into the lumen of the appendix Appendectomy eliminated the necessity of opening the large bowel

DO THE FOREIGN BODIES CAUSE APPENDICITIS?

Although a foreign body may lie practically dormant in the appendix for some time, it probably lowers the resistance of that organ by producing a chronic irritation of the mucous membrane Such an opinion was expressed by Lazarus,[17] who suggested that an attack of appendicitis in a patient suffering from grip at the time was made more probable because of the irritation by a pin that had been within the appendix for some time

Perforation by blunt foreign bodies is purposefully not analyzed in this report. Although grape seeds, other exogenous foreign bodies and fecaliths are occasionally seen in association with "ruptured" appendicitis, it is felt that in such cases the perforation is usually secondary to the inflammation that follows obstruction of the lumen by the impacted foreign body. Yet Meyer and Rossi,[18] adding a case of their own, mention 2 cases of primary perforation of the cecum by false teeth.

In Park's[19] 2 cases of perforation of the appendix by a common pin, symptoms of chronic appendicitis had existed for a long time. Operation was performed for a supposed acute exacerbation. In 1 case the pin was found in an abscess cavity, the appendix not being located. In the other the pin was present within a diseased appendix. The latter had ruptured, and an abscess was present.

One week after a patient of Engstad's[20] had swallowed a twig, the appendix was found to be perforated but not much inflammed. Marked inflammation was present in the surrounding structures. The twig was recovered from a peritoneal fold behind the cecum.

POSITION OF THE PIN

Usually, the pin enters the appendix head first. Generally, it remains straight, being bent upon itself rarely. In most instances it lies parallel to the long axis of the appendix.

The head of the pin in our case followed the usual course. The pin was somewhat bent, and its direction varied only a few degrees from that of the longitudinal axis of the appendix. In Rentschler's case[21] the pin lay with its tip toward the distal point of the appendix.

Occasionally, the head of a pin may ulcerate through one wall and its point perforate the opposite wall. The pin may remain free from deposit, become corroded and rusty and be either partly or completely covered by feces. Thus, it may serve as the nucleus of what may from gross appearance give the impression of an unusually long simple fecalith.

In several instances the head of the pin became surrounded by a concretion. The entire shaft has passed out of the lumen of the appendix. The "enlarged" head, acting as a ball valve, prevented complete exit from the appendix.

McBurney and Hirst (quoted by Fowler) each reported single cases in which two pins were found lying parallel to each other within the appendix.

TIME OF ONSET OF SYMPTOMS

One would suppose that a swallowed pin, toothpick or other sharp substance, such as a nail, a chicken bone or a fishbone, would lead to rapid perforation. As has already been previously stated, this is not usually so. Acute symptoms lasting less than ten days and not preceded by any previous attack were noted in only 13 of the 59 cases of perforation by a common pin collected by Fowler.

As a rule there is a gradual onset of abdominal pain, low grade fever and localized tenderness. A sudden and dramatic appearance of sharp pain that is constant and severe, accompanied by vomiting and soon followed by a general peritonitis, is rare. Nor does shock as seen after a ruptured peptic ulcer usually appear.

Perforation has occurred as soon as a few hours and as late as fifteen years after the swallowing of a pin. In the case described by Lazarus it took place after one and a half years, while in that of Gottesman[22] the patient, a young woman, when informed that a stick pin had perforated her appendix, recalled that the accidental swallowing had taken place some nine years previously.

Of possible interest in the field of workmen's compensation are the cases of Bell and Morrata, cited by Fowler In each instance a swallowed pin had remained dormant in the appendix for years until "lighted up" by a blow on the abdomen

Of special interest is the surprisingly small percentage of patients who before operation mention having swallowed a foreign body

SIMULATION OF OTHER CONDITIONS

In practically all the cases involving perforation of the cecum, ileum, Meckel's diverticulum or the appendix, the symptoms were those commonly attributed to acute appendicitis In *none* was perforation by a foreign body suspected

Glazebrook (quoted by Lazarus) reported the case of a young child suddenly taken ill with chills and rapid breathing It cried when moved about and referred its pain to the right anterior chest Death took place three and a half hours later Necropsy revealed a purulent appendicitis with a localized peritonitis The appendix was perforated at its middle by a common pin It was then ascertained from the parents that the pin had been swallowed ten months previously

SITE OF PERFORATION

One might expect that the greatest number of perforations would occur proximal to the fixed points and relatively narrowed passageways of the gastrointestinal tract, i e , proximal to the cardioesophageal junction, the pylorus and the natural angles in the first and second portions of the duodenum

According to a review of 83 cases by McManus wherein the sites of the perforations were given, 53 took place in the ileocecal area Thirty three involved the appendix, which made that organ the one most frequently perforated

FREQUENCY OF PERFORATION IN VARIOUS SITES

Stomach	2
Duodenum	1
Jejunum	2
Meckel's diverticulum	10
Ileum	10
Cecum	10
Appendix	33
Hepatic flexure	3
Transverse colon	1
Splenic flexure	2
Descending colon	1
Sigmoid colon	5
Rectum	3

Tenesmus, bloody stools and diarrhea were noted in all 3 cases of perforation of the rectum

According to Deaver the first appendectomy on a living subject, performed by Claudius Amyard, was on a boy of 5 years The indications for surgical intervention were an irreducible scrotal hernia accompanied by a discharging sinus of the right thigh The appendix, wrapped in omentum, lay in the hernial sac It had been perforated by a pin The head of the latter, enveloped by fecal contents, was still within the appendix

In 7 of McManus's cases in which the site of perforation could not be determined the foreign bodies were found lying within abscesses in various recesses of the peritoneal cavity Thus, it would be well to keep in mind the possibility of perforation by a swallowed sharp foreign body as a remote cause of an obscure peritonitis

Direct perforation of the appendix occurred usually near the base or at the middle Fowler cited several interesting cases for instance [illegible]abel's, in wh[illegible] nt and [illegible] netrated the appendix, passed through the ileum and produced a small abscess between the ileum and the cecum, and Keen's, in which the tip of the appendix was adherent to the bladder, with which it had established a pathologic anastomosis. In the latter case a pin, encrusted by a calculus, was found in the bladder; worms and feces were discharged per urethram.

PATHOLOGY

Five main types of pathologic sequelae have been encountered.

1. In 18 per cent of cases an early localized peritonitis was found, usually with a metallic body plugging the small, acute perforation. In 88 cases of this type, the obstruction occurred in the ileacecal segment. Coils of the intestine were glued together by light fibrinous adhesions.

2. Indurated, inflammatory tumors occurred in 15 per cent of the cases. The perforating agent was well walled off by indurated omentum and visceral peritoneum.

3. Almost half, approximately 45 per cent, of the cases were characterized by abscess formation. In 1 instance this occurred in a hernial sac, and in 3 it was in the perirectal tissues. In Durham and Beltz's [23] case a toothpick lay free in an abscess cavity. Mitchel's review [24] in 1899 included 3 cases in which either a chicken bone or a fishbone lay within an abscess of the abdominal wall. These appear to have been examples of the migratory type described by Poulet.[25] Almost half of the abscesses were situated in the right lower quadrant of the abdominal cavity, being secondary to perforation of the appendix, cecum or ileum. The only mention noted in the literature of abscess of the liver following perforation by a swallowed sharp foreign body was that of 6 cases included in Mitchel's collected series. Only 3 of the 42 abscesses gave rise to fecal fistulae.

4. Twenty per cent of the cases (approximately 1 out of every 5) were accompanied by general peritonitis. Two cases followed perforation of the sigmoid, 1 perforation of the jejunum and 15 about 16 per cent) perforation in the lower ileal and cecal regions. Half of the foreign bodies were metallic objects; the other half, bony or wooden. General peritonitis was noted in the young as well as in the aged.

5. *Hemorrhage* was reported in only 1 case, that of Wolfer and Lieblien.[26] A large branch of the right gastric artery had been pierced by a fishbone that had penetrated the gastric wall. Death came quickly.

MORTALITY

Before 1900 the mortality in 34 reported cases was 53.5 per cent. In almost all of these surgical intervention had not been attempted. The patients who survived did so because the abscesses that had developed either drained spontaneously or did not require entering the general peritoneal cavity in order to approach them.

From 1900 to 1940, 6 deaths occurred in 60 cases, a mortality of 10 per cent. Four were due to general peritonitis.

The decidedly lower mortality rate in the twentieth as compared with that in the nineteenth century may be attributed to several factors. Modern asepsis has dissipated the ultraconservative attitude of the previous century toward entering the peritoneal cavity. Hence, sharp foreign bodies are removed even before perforation occurs. General peritonitis is recognized and effectively treated much earlier. The death rate has been greatly reduced by the Wangensteen and Miller-Abbott technics of preventing and treating abdominal distention. It has been influenced also by attention to the problems of dehydration, protein and electrolytic balance and adequate fluid as provided by intravenous administration of dextrose in saline solution as well as of blood plasma. Supplemental multivitamin therapy plays an important part. Of inestimable value is the earlier localization of swallowed sharp metallic bodies, permitting removal either before perforation takes place or before a serious general peritonitis appears.

MANAGEMENT

Management of this type of case depends on a number of factors, among which are:

1. A knowledge of the swallowing of a sharp-pointed foreign body.
2. The character of the substance swallowed, whether metallic or nonmetallic.
3. The availability of x-ray and laboratory equipment.
4. The accessibility of adequate surgical facilities.

When such a body has passed into the esophagus, frequently repeated fluoroscopic and roentgenographic examinations are indicated. Since danger incident to a barium sulfate meal is practically nil, such a meal should be given as soon as possible. More definite localization of the foreign body will thus be afforded than is possible from the routine flat plates of the abdomen.

Since about 75 per cent of the perforations that have occurred took place through Meckel's diverticulum, the lower part of the ileum, the cecum or the appendix, no great concern need be felt until a foreign body reaches that segment of the gastrointestinal tract which is bounded by the most proximal and distal of these organs.

A statistical review at this point will be of assistance in formulating a plan of procedure for those sharp-pointed bodies that have arrived at the "critical segment".

In Carp's series of 48 collected cases, including instances of ingestion of both sharp and blunt objects, 17 per cent of the foreign bodies lodged in some portion of the intestinal tract.

In 6 of a series of 93 collected cases of perforation by an ingested foreign body, according to McManus, the perforation took place in the loop of an incarcerated hernia.

Fowler reported that perforation occurred in 48 of 63 cases of a common pin reaching the appendix—an incidence of 76 per cent.

The most frequent foreign body to perforate the cecum is a toothpick. Chicken bones, fishbones, toothpicks and long nails and hairpins are more prone to perforate the cecum than the appendix. Perforation, however, does not always occur.

The likelihood of perforation in the "critical segment" is as follows: Meckel's diverticulum, ileum and cecum, each about 12 per cent; appendix, about 40 per cent. When foreign bodies have managed to pass beyond the cecum, the incidence of perforation in the remainder of the intestinal tract in the case of sharp-pointed foreign bodies is still as high as 18 per cent. Half of the perforations take place in the sigmoid flexure, the others occurring (in order of decreasing frequency) in the hepatic flexure, rectum, splenic flexure and transverse and descending colon.

Certain conclusions may be drawn from the foregoing statistics. A common pin probably will reach the appendix before perforation is likely to occur. As soon as it has been definitely determined that the pin is lodged within the appendix, appendectomy is [illegible]ed.

Inasmuch as the toothpick and not the common pin has been the most common cause of perforation of the cecum, it seems unwise to attempt to milk a common pin from the cecum into the appendix with the view in mind of doing an appendectomy. Spontaneous progression usually occurs if a common pin has managed to escape incarceration within the appendix.

Should there be any unusual delay in the progress of a common pin to the appendix (as observed by frequent fluoroscopic examination) a rise in the sedimentation rate of the erythrocytes or in the temperature and pulse rate curves may indicate a slight perforation at the point of lodgment. Immediate laparotomy becomes advisable.

With all types of swallowed sharp foreign bodies, whether metallic or nonopaque, close observation of the sedimentation rate, temperature and pulse are indicated. This is especially important in the case of toothpicks, chicken and fishbones and other nonopaque substances, since the x-rays are of no assistance in determining their progress.

If the roentgenologist attempts to determine whether a pin is still within the appendix from a study of the films alone, he may find himself in error. In the case hereinafter described the first report by the roentgenologist was based on a review of the films brought by the patient to the hospital. The pin did not appear to be in the lumen of the bowel.

Subsequently, under fluoroscopic examination, the pin was found to move with the appendix during respiration. This led to the conclusion that "the pin may be in the wall of the appendix."

After the appendix had been removed and opened along its longitudinal diameter, an explanation for the roentgenologist's inability to state definitely whether the pin was either in or outside of the appendix was obtained. Barium had failed to enter the distal third of the appendix, in which the pin lay. Hence that portion of the appendix did not visualize.

When treating patients with mental disease, one should always consider the possibility of perforation by a swallowed foreign body as a cause of abdominal pain.

Persons wearing an upper dental plate have lost the tactile sensation in the palate provided by nature as a safeguard against accidental swallowing of foreign bodies that are at times present in food. Most of the patients who had perforations by toothpicks wore upper plates. Meat rolls are often cooked with toothpicks inside them. The cooking partially softens the wood and makes detection more difficult even when an upper plate is not worn. The custom of serving club sandwiches and hors d'oeuvres with toothpicks seems to have given rise to a gastronomic hazard.

In obscure cases of peritonitis it may be well to bear in mind the possibility of a sharp foreign body as the primary cause.

REPORT OF CASES

CASE 1.—D. B., an 18 year old Air Cadet, swallowed a common pin on March 3, 1944. Five days later, he felt a pain in the right lower quadrant of the abdomen. Roentgen study of the gastrointestinal tract after a barium sulfate meal located the pin in the vicinity of the appendix.

During the ten days following the swallowing of the pin, he was up and about. His only complaint was a sense of discomfort felt when he moved hurriedly. After the first few days he had been forced to discontinue calisthenics and running because of actual pain when he attempted to engage in such activity.

His bowels moved normally; his diet was general. On the 20th of March, seventeen days after he had swallowed the pin, he was admitted to a naval hospital. The series of roentgenograms which he brought with him were interpreted as follows:

"A review of the films made between March 9 and March 14 shows the pin to be in approximately the same location. It does not appear to be in the lumen of the bowel."

Several factors during the week that followed his admission to the hospital served to delay the decision to perform a laparotomy. The interpretation by the x-ray department was rather indefinite. In fact, the impression obtained was that the pin was outside of the intestinal tract. In view of this opinion it was felt that it might be wiser to await a more definite localization before making any attempt to remove the pin surgically. The presence of the pin did not seem to bother the patient except psychically. He complained of no pain even when going to and from the "head."

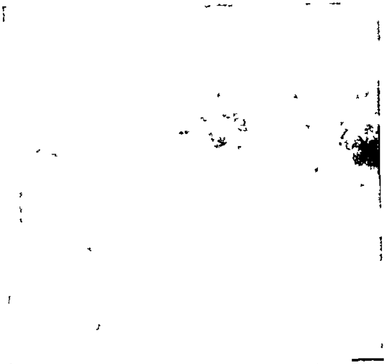

Fig. 1 (Case 1). Roentgenogram depicting a common pin in the right lower quadrant of the abdominal cavity. It was impossible from this film to determine whether the pin was still embedded within the appendix or whether it was lying free within the peritoneal cavity.

Urinalysis, a Kahn test, white blood cell and differential counts, red blood cell counts and determinations of hemoglobin gave normal results. The temperature, pulse and respiration were all normal.

On March 29, 1944, a fluoroscopic check-up examination was reported as follows:

"There is barium in the appendix. During respiration the pin is seen to move up and down with the appendix. There is no barium around the pin. This suggests that it may be either in the wall of the appendix or outside the latter; at any rate it is inside the abdomen."

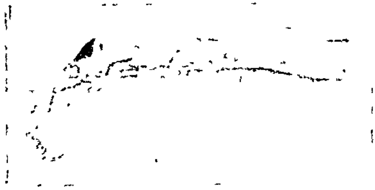

Fig. 2 (Case 1). The point of a common pin is visible through the thinned out serosal layer of the appendix. The serosa is being forced ahead of the advancing pin as perforation becomes imminent.

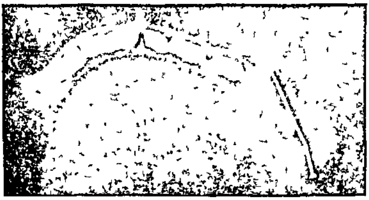

Fig. 3 (Case 1). Roentgenogram of the appendix after removal. A slightly bent common pin is present in the distal quarter of the appendix. Barium coated fecaliths are visible. The most distal of these visualized fecaliths was 7 mm. distant from the nearest part of the pin. This explained the difficulty experienced by the roentgenologist in attempting to decide whether the pin was within the appendix or whether it was free within the peritoneal cavity. On fluoroscopic examination the pin was seen to move with the appendix during respiration. Thus it was possible to conclude that the pin was still embedded in the appendix.

Once again, the report from the x-ray department was somewhat inconclusive. One thing, however, was definite. The pin had not progressed beyond the site at which it had been visualized almost three weeks previously. Even though the x-ray report stated that the pin might be outside the appendix, the fact that it seemed to move with the latter during respiration was significant.

Reasoning that the pin was probably imbedded in the wall of the appendix, it was decided that an exploratory laparotomy was indicated. Although the patient had no subjective pain at the time and tenderness on palpation was not elicited, his being subject to sea duty or extracontinental service was a factor in the decision.

Spinal anesthesia was employed. The "silent abdomen" produced by such anesthesia was most helpful. Furthermore, perforation of a hollow viscus, such as is incident to active intestinal movements while a patient is under general anesthesia, was less likely to occur with spinal anesthesia.

The pin was located without any difficulty, lying in the distal third of the appendix. The head of the pin was near the tip of the appendix. *It appeared to be lying partly* within the lumen and partly within the wall of the appendix. Its tip could be visualized clearly as it caused the serosal layer to bulge. Perforation was imminent but had not yet taken place. Appendectomy was done. The postoperative course was uneventful. The cadet returned to duty a month later.

Nothing of note was found on pathologic examination to determine whether the presence of the pin had led to the development of chronic or acute appendicitis.

When the appendix was opened along its longitudinal diameter it was evident that barium had not adhered to the pin. This accounted for the roentgenologist's inability to state definitely whether the pin was either within or outside of the appendix. The pin was slightly bent.

The appendix was examined roentgenographically after its removal. The findings were reported as follows:

"The portion of the appendix that was removed is 9 cm. in length. Its greatest diameter is 1 cm. There is a straight pin 27 mm. in length in the distal end of the appendix. The head of the pin is at the distal end of the lumen. The proximal half, including the point, is imbedded in the wall of the appendix. About 2 mm. of the distal end of the pin projects into the subserosal layer. In the proximal 6 cm. of the appendix there are barium deposits that outline several fecaliths. The most distal fecalith is approximately 7 mm. distant from the nearest portion of the pin."

CASE 2.—E. P. B., S 2/C, was admitted to a naval hospital on Jan. 1, 1944. His chief complaint was pain in the right lower quadrant of the abdomen. This was his first attack.

Generalized abdominal pain appeared on the day previous to his admission. He vomited once only. The pain persisted throughout the night. By morning, localization of the pain in the right lower quadrant of the abdomen was definite. The pain was intense.

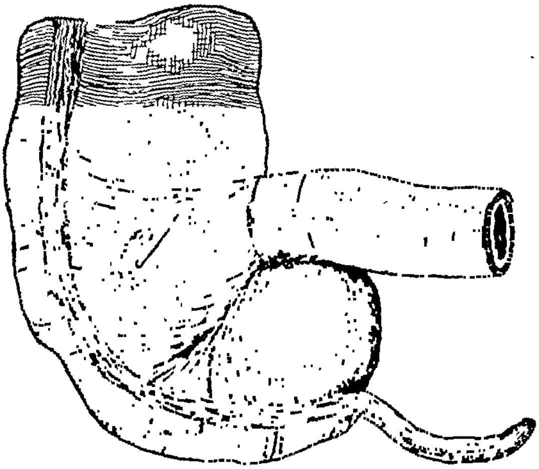

Fig. 4 (Case 2). Toothpick perforating the cecum on its anterior aspect. A fibrinous purulent exudate covered the appendix. The site of perforation in the cecum was effectively plugged by the toothpick. The peritoneal cavity was free of intestinal contents.

General examination revealed nothing significant except tenderness, muscular spasm and rebound tenderness in the right lower quadrant of the abdomen. The white blood cell count was 18,000, of which 88 per cent consisted of segmented polymorphonuclear leukocytes. Urinalysis and Kahn tests gave normal results. The oral temperature was 100.6 F. The preoperative diagnosis was acute eppendicitis.

A McBurney incision was employed. Spinal anesthesia was the anesthetic of choice. When the peritoneal cavity was opened the appendix was seen to be covered by a purulent exudate. Protruding through the anterior wall of the cecum was a toothpick. The latter thoroughly plugged the point of perforation. Local necrosis in the wall of the cecum at the site of penetration was clearly evident. The peritoneal cavity was free of any intestinal contents.

The toothpick was removed, and the site of perforation was closed by inversion. Appendectomy followed. The abdomen was closed without drainage. Postoperative progress was uneventful, and the patient returned to duty at the end of a month.

SUMMARY

A review of the literature revealed that most perforations of the gastrointestinal tract are by sharply pointed metallic objects.

Fifty-three per cent of perforations occur in the ileocecal region. Perforation of the bowel lying within a hernial sac was reported in 6 cases.

Fifty per cent of the patients reported on presented symptoms lasting from a few hours to two weeks before being operated on. The remainder gave histories lasting over much greater periods, in several instances as much as ten to fifteen years.

Five types of pathologic manifestations were noted: early localized peritonitis, inflammatory masses, abscesses, general peritonitis and hemorrhage.

The mortality dropped from 53.5 per cent in the cases reported prior to 1900 to 10 per cent in those reported after that arbitrarily selected date.

One is justified in viewing the swallowing of sharply pointed foreign bodies with grave concern until these are located and removed.

The management of such cases is discussed.

Detailed reports and illustrations of a case of perforation of the appendix by a common pin and of one of perforation of the cecum by a toothpick are given.

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RESUMEN

Pasando revista a la literatura se halla que la mayoría de las perforaciones del tracto gastrointestinal son producidas por objetos metálicos muy afilados.

El 53 por ciento de las perforaciones tienen asiento en la región ileocecal.

En 6 casos se da cuenta de perforaciones intestinales en el interior de un saco herniario.

El 50 por ciento de los pacientes aquí referidos presentaban síntomas de una duración variable entre unas pocas horas y dos semanas antes de ser intervenidos. El resto mostraba una historia de mucho mayor duración, llegando en varias ocasiones a períodos de diez a quince años.

Se observaron cinco tipos de manifestaciones patológicas: peritonitis precoz localizada, masas inflamatorias,

abscesos, peritonitis generalizada y hemorragia.

La mortalidad descendió desde el 53.5 por ciento correspondiente a los casos descritos con anterioridad a 1900 hasta un 10 por ciento correspondiente a los casos descritos despues de la obtención de los presentes datos.

El cirujano ha de considerar como un factor de peligro la deglución de instrumentos u objetos afilados, debiendo tomarse las medidas adecuadas para la localización y extracción del cuerpo extraño. Aquí se estudia el tratamiento de esta clase de casos.

Se describen con detalle e ilustraciones un caso de perforación del apéndice con una alfiler y otro de perforación cecal con un palillo de dientes.

RÉSUMÉ

La revue de la littérature nous révèle que la majorité des perforations gastro-intestinales sont dues à des objets métalliques pointus. Cinquante-trois pour cent des perforations intéressent la région iléo-cécale. La perforation d'une anse intestinale herniée fut observée six fois. Cinquante pour cent des malades présentèrent des symptômes de quelques heures à deux semaines avant d'être opérés. Les autres datèrent leurs symptomes pour de plus longues périodes, dans quelques cas de dix à quinze ans. Les manifestations pathologiques suivantes furent observées: péritonites locales, masses inflammatoires, péritonites généralisées, et hémorrhagies. La mortalité, qui était de 53.5 pour cent avant 1910, n'est aujourd'hui que 10 pour cent. Les objets pointus ingérés par la bouche demandent des soins précoces. Le traitement indiqué pour les perforations traumatiques est discuté. Entre beaucoup de cas, l'auteur rapporte un cas d'appendice perforé par une épingle ordinaire et aussi une cas de perforation du coecum par un cure-dent.

Свод

Обзор литературы показывает, что большинство перфораций желудочно-кишечного тракта причиняется остроконечными металлическими предметами.

53% перфорация происходит в тонко-слепокишечной области. Внутрегрижевая кишечная перфорация была доложена в 6 случаях.

50% больных, описанных в этом докладе, проявили симптомы от нескольких часов до двух недель до операции. Остальные больные дали гораздо более продолжительную историю болезни, в нескольких случаях от десяти до пятнадцати лет.

Были установлены пять патологических типов: *ранний локализированный* перитонит, массивное воспаление, нарыв, общий перитонит и кровотечение.

Смертность по сравнению с докладами до 1900 года упала от 53.5% до 10%, дата эта будучи избранна произвольно.

Вполне оправдывается серьезное отношение к проглатыванию острых посторонних тел. Требуется их немедленная локализация и удаление.

Описана методика таких случаев. Дан подробный доклад и иллюстрации случаев перфорации чревовидного отростка обыкновенной булавкой и слепой кишки зубочисткой.

A METHOD OF INGUINAL HERNIORRHAPHY

(Continued from page 458)

1. сохранить элипсоидальный контур ингвинальной области,

2. вполне искоренить перитонеальные выступы, и

3. создать отдельный канал для corda spermatis.

При этом способе Куперовая, а не Пуппартовая связка употребляется, как якорь. В 113 операциях грыжи над 89 больными результаты этой методы были хороши.

IN MEMORIAM

GEORGE SANFORD FOSTER, M D , F I C S

George S Foster was born on April 20, 1882, in Barrington, New Hampshire After his graduation from Tufts College Medical School and internship at Boston City Hospital, he settled in Manchester, New Hampshire, where he practiced throughout his career He was surgeon at the Notre Dame Hospital in that city from 1906 to 1925, and afterward at the Lucy Hastings Hospital His postgraduate studies were extensive, he attended clinics in Switzerland, Austria, England, Scotland and France, as well as in the United States He was a member of the Manchester Medical Association, the Hillsborough County Medical Association, the New Hampshire Medical Society, the New Hampshire Surgical Club the American Association for the Study of Neoplastic Diseases the New Hampshire Academy of Science, the Medical Officers' Association, United States Army the American Medical Association and the American Medical Editors' and Authors' Association In 1942 he was assigned as Lieutenant Commander in the Navy and stationed in Hawaii Later he was ordered to the Bureau of Medicine and Surgery, Navy Department, Washington, D C, as assistant to Captain Louis H Roddis, who heads the Board of Medical History At the time of his death he was busy writing the "History of Naval Medicine, World War II" His publications have included numerous articles on varied surgical subjects in different periodicals, including several in the *American Journal of Surgery* and in *International Clinics*

DR MAX MEYERHOF, F I C S

A Tribute

With the passing of Dr Max Meyerhof in Cairo on April 20, 1945, not only Egypt but the whole world lost one of the most versatile and outstanding personalities and scholars of this generation

Born on March 21, 1874, he came of an old German Jewish family whose residence in Hildesheim dated back to 1720 On both sides of the family pronounced talents were evident both for science, particularly medicine, and for historical research On his mother's side was the outstanding gynecologist Prof Dr Otto Spiegelberg, of Breslau and Goettingen, and likewise his cousin, Prof William Spiegelberg, the famous Egyptologist of Strassburg Another cousin, Prof Otto Meyerhof, whom in 1900 he accompanied to Egypt, suffering from a renal complaint, is the famous chemist and physiologist who was awarded the Nobel prize for medicine in 1932 and who since 1940 has been practicing in the United States at the University of Chicago

Apparently Dr Meyerhof's first stay in Egypt exercised such a fascination upon him that in 1903 he settled in Cairo as an oculist

The marked family talents for medical and historical research not only exercised a deciding influence on his choice of a career, they fused in a unique synthesis in the personality of the great oculist and the great orientalist

On the foundation of an excellent training under Professor Uhthoff, of Breslau, Dr Meyerhof soon built up an extensive oculist's practice At the outset he and kindred spirits founded a polyclinic for the treatment of the poor He also immediately began bacteriologic and clinical work on the extremely prevalent Egyptian infectious ocular diseases, and he published every year, as a result of this research, articles on the causes and treatment of the main Egyptian ocular diseases, some in German and others in French and American journals, and later also in the *Bulletin of the Egyptian Ophthalmological Society,* of which he became an honorary member in 1930.

In addition to this extensive activity in both the practical and the scientific sphere of ophthalmology, he turned as early as 1907 to the study of ancient Arabic ophthalmic science. And it was here that his real genius for the history of Arabic Medicine first found expression, in studies which remained an absorbing passion up to the end of his life. He quickly learned Arabic—partly under Professor Littman but chiefly by his own efforts—and had soon mastered nearly all the Semitic languages. Thus he had access to original manuscripts, from which he published many hitherto unknown writings. Later he devoted himself more and more to the general history of medicine and the natural sciences of the Arabs and opened up to research unsuspected material in the sphere of medical history. The result was an endless series of valuable writings dealing with the history of the sciences in the Arabic Middle Ages.

It was no wonder that the authority on Arabic medical history quickly became known and appreciated. He was soon elected a member of the Academy of the History of Sciences in Paris and of the Royal Society of Medicine in London. Later he became a member of numerous societies. In 1928 he received the honorary degree of Ph.D. at Bonn University. He became first a member and then vice-president of the Institut d'Égypte in Cairo, vice-president of the Société Royale de la Médecine d'Égypte in Cairo, and likewise of the Society of Friends of Jerusalem University, and an honorary member of the International College of Surgeons. On the occasion of his seventieth birthday, last year, Jerusalem University published in his honor a bibliography of his collected works. It includes over 300 publications and monographs, and is a worthy memorial of the great life's work of Max Meyerhof.

It must be left to more competent persons to estimate in detail the vast achievements of this great man as ophthalmologist, orientalist, student of Arabic medical history and connoisseur of the Art of the Near East. These lines are merely an attempt to capture his personality as a whole and preserve it as an inspiration to posterity.

It is surely no mere chance that Dr. Meyerhof felt himself so attracted by the personality of Maimonides, who nine hundred years ago worked in the same place as physician, student of natural science, scholar and philosopher. The fruit of this unique spiritual affinity between the two great physicians is "The Medical Work of Maimonides."* Particularly interesting to surgeons is his publication of the Papyrus Edwin Smith, "the oldest book on surgery in the world," and his illuminating interpretation of it resulting from his ability to explain it at first hand from the original text in his hieroglyphics.

Mention must be made of the fact that in 1930 Dr. Meyerhof felt obliged to refuse the offer of a professorship of Medical History at Leipzig University because he already foresaw that the nationalistic attitude of mind prevailing among the students at that time would not guarantee freedom of speech and freedom to teach for the future. As I look back, it seems to me that he was always the finest possible representative of the academic spirit of the old Germany.

As one exchanged ideas with him and tasted of his inexhaustible knowledge, one realized that the history of medicine is at the same time the history of human culture, and that the urge to study the historical problems of mankind profoundly arises from a most intense feeling for life, which leads the individual concerned to strive to enlarge the mental horizon of his age by a revelation of the truth behind historical processes. His lifelong preoccupation with such problems, the merging of his personality with them, produced this universal scholar-personality.

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* The Medical Work of Maimonides, in Essays on Maimonides, W. S. W. Baron, New York, 1941.

But this attempted portrait of the great man would remain too colorless and one sided if it did not include mention not only of his great intellectual gifts but also of his imaginative and artistic side. He knew and used to relate Arabic fairy tales like a professional story teller; he knew, too, countless anecdotes which in his vivid retelling were transformed into fairy tales. His love of plants and flowers he owed in the first instance to the inspiration of the great botanist Georg Schweinfurth, who was a personal friend of his. He was likewise a connoisseur and collector of oriental carpets, on which he was considered an expert not only by merchants and amateurs but by directors of museums. He also had a wide knowledge and deep understanding of Persian, Arabic and Coptic art.

His house was a place of refuge to all exiles from Europe, to whom he was always ready to give both advice and practical help. It was also a center for scholars from all parts of the world. In the last months of his life, orientalists from Russia and students of Medical History from the United States of America were meeting under his roof, so that, while his home was an intellectual center for ethnographers, orientalists, botanists, egyptologists and research scholars of every kind, he himself was unconsciously a mediator between East and West.

What lent his persona [illegible] its tremendous attraction was that the development of his great intellectual powers wer [illegible] by side with deep human sympathy. His creative power, linked with his goodness of h [illegible] ave him harmony and universality. And with all this he combined a modesty that was [illegible] ching.

As an oculist D [illegible] rhof had been for decades in Egypt an almost symbolical figure whose name had be [illegible] ymous with the recovering of sight to the blind. He will be mourned by his cou [illegible] nts and also by his friends and fellow scholars all over the world.

Prof. Dr. Hugo Picard,
Cairo, Egypt.

Editorials

Reflections Following Victory

WE rejoice in one of the immediate results of the recent cessation of the tragic military struggle. With restrictions on travel and the holding of meetings almost eliminated, surgeons from all over the United States can again come together for fellowship and exchange of ideas. Accordingly, the Tenth Annual (Victory) Assembly of the United States Chapter of the International College of Surgeons will be held in Washington, D. C., on December 6, 7 and 8, 1945.

It is significant that this meeting is to be held in Washington. Not only is this city the capital of the United States, and hence an ideal place for discussion of matters of national and international concern, but it is the city of incorporation of the International College of Surgeons (founded in Geneva, Switzerland, in 1935).

With the leadership of Dr. Herbert Acuff, the President of the United States Chapter of the College, and Dr. Custis Lee Hall, of Washington, the General Chairman, coupled with the efficient cooperation of the various committee chairmen, this scientific assembly will yield much that is worth while.

* * *

We are heartened by the opportunity to hold this meeting. We are pleased that we shall have with us some of our members already released from military service. We are glad that in some ways, in some places, the restrictions and inconveniences imposed by the war are over. We are delighted because the actual dangers of war are over for the members of the armed forces of many nations. We are happy because the suffering of civilians in some parts of the world has already been eased, and that there is opportunity to bring relief to others. Let us hope that the scientific discoveries made in wartime can now be put to *constructive use,* and that the gradual return of surgeons and other professional men from the military services will release more manpower for constructive work. Let us, from a personal standpoint, be stimulated to renewed activity because we have an organization of international integration to help us in our planning.

* * *

In this hour of glad tiding let us, nevertheless, not forget the gloomy conditions still present in the world which are disheartening, or our responsibilities toward the peoples of the world and toward the civilization of the future. Let us not forget that in many countries children have been so weakened by physical exposure and lack of food, and by mental and emotional stress, that only by a miracle of humanitarian science can they become normal adults and useful citizens. Let us not forget that the education of young people all over the world has been so interrupted and handicapped that unless prompt and energetic action is taken a future generation may have a serious shortage of well trained scientists. Let us *not forget* that the hardships and inconveniences experienced by individual countries may bring forth outbursts of nationalistic desire to seek economic and physical security and benefits for themselves first and foremost, and in the struggle for attainment forget, perhaps, that this can no longer be a world with segmental isolation, that *integrated effort is necessary for the welfare of all.* We must be mindful that unless all thinking people of *all professions* combat these tendencies to isolation and selfishness one of the causes of the war may be quickly renewed.

* * *

The United States Chapter of the International College of Surgeons is the largest unit of an international organization. To them, composed of Americans, the challenge to counteract nefarious "isms" and intolerances in their "incubation period," and, yes, destroy them, if need be, is real and beckoning. All men of medicine are conversant with the aberrant and destructive functions of certain neoplastic cells. They know their potentialities for evil and dangers to normal life, and they know the cure. This holds true whether a single cell or myriads are affected and on the rampage. Americans have never lost a war, and when finally convinced of the justness of a cause they can and will resolutely conquer any and all evils besetting a diseased world. Their influence for good is historic. After the Victory Assembly in Washington, our leaders and constituents will, in March 1946, take advantage of the International Assembly in Lima, Peru, at the invitation of the Peruvian Government, and under the leadership of the distinguished Dr. Francisco Graña. We look forward at that time to an interchange of thought between representative surgeons *from all over the world.* The spirit of the Assembly will be aided by the sympathetic attitude of the great Peruvian government, under whose sponsorship the Assembly will be held. This international assembly should play an important part in establishing sound and cooperative international relations among surgeons.

The Tenth Annual Assembly of the United States Chapter must do its share in this movement, as well as play a specific part in helping to solve the concrete problems presented by the world of today and the world of tomorrow. It must be more than a meeting of surgeons of the United States to listen to presentations of scientific reports by surgeons of note. Its fellowship must be more than an interchange of cordialities and ideas between individuals who come to the same lecture hall or banquet room. Reports of the latest scientific developments can be read in medical and surgical journals; congenial people can be found in any gathering, national or local. This must be *more than another meeting,* just as *the International College of Surgeons is more than a surgical society.*

In this conclave there will be a reaffirmation of the desire of the members to extend a helping hand to their less fortunate brother surgeons. They must subscribe to the blotting out for all time of the possibility of other "Belsen beasts" and their degreed henchmen; they must make their voices of resentment heard in unison on physical and mental atrocities perpetrated on human beings. One finds it impossible to discover the reason for the mental gymnastics performed by those who squander fortunes in money and in publicity so that the world may see their crocodile tears over "vivisection" yet whose voices are complacently silent on the subject of the atrocities visited by some men on their helpless fellows.

American civilization, American manhood and American sense of justice all revolt at this grotesque discrepancy. Americans will never permit a *laissez faire* attitude—Yes, the American hearts that beat in the chests of those men on Corregidor will reaffirm their determination that it shall never happen again.

* * *

In some way the Victory Assembly of the United States Chapter must be an active expression of the purposes of the College and of the universal humanitarian aims of world-minded surgeon-citizens.

MAX THOREK

Vistas Before Us

MEN of science in every land welcome the dawn of peace. The clouds of war appear to be lifting from the horizon of the future. Social and political tyranny is in the process of being suppressed in every country where freedom of thought and action is the basic ideology. May the day never return when fine young men and women born with a hope for usefulness in a world of opportunity have their lives terminated prematurely by the ravages and atrocities of war!

The innate desire for freedom in the hearts of the millions of every tongue and race as much as the prowess of men and material resources must be given credit for victory.

Space and time have been annihilated by modern methods of transportation. Men returning to American shores think kindly of their allies in Britain, in Russia, in the countries of suppressed Europe, in Australia, in China, in India, in South and Central America, in Mexico and in the Dominion of Canada. Thus an international amity among millions of citizens as well as among the heads of nations is being created, which, it is hoped, may grow as an influence for peace as well as a barrier against war.

Ten years ago in the historic city of Geneva, Switzerland, the International College of Surgeons was founded. In a world then in peace, the founders of that organization visualized the day when the tranquility of nations might be precipitated into the chaos of war, when trained surgeons would be needed both at home and with the military forces. When the war came, with its demands for surgeons, the College was well entrenched, with members and chapters throughout the world. Members of the College both in the United States and in other countries have held positions of responsibility and leadership in the medical services of the armed forces.

The International College of Surgeons is a teaching organization. It is global in scope and influence. It is not in competition with any existing organization or society of surgeons; rather it would reach out the hand of scientific fellowship to surgeons all over the world and to national surgical organizations, and bid them join in the greater international march of industry, commerce, the arts, transportation, law, and alliances for world peace. For nearly a century surgeons everywhere have striven for a common goal in the restoration of normal physiologic functions of mankind. Now more than ever there is opportunity for scientific exchange of ideas and methods of elective procedure. The surgeons returning home from the war fronts of the world have mingled with professional confrères of other lands, have admired them, have been inspired by their work and have a strong desire to keep an international relationship with them. This is as it should be.

This is a golden opportunity for the International College of Surgeons to carry the torch of science and friendship throughout the world; to cement the gains thus far realized and continue to the full realization of the ideals of its founders.

It is perhaps not extravagant to hope that within two or three decades the majority of qualified surgeons who can meet the requirements of the International College of Surgeons will be enrolled under its banner of many flags, talking in many tongues but all speaking the common language of science with one purpose—a desire to maintain peace in the world and to alleviate suffering for all humanity.

Herbert Acuff,
President, United States Chapter,
International College of Surgeons.

CORRECTION

On page 366 of the July–August issue, the last paragraph of the review of Miriam Bredow's "Handbook for the Medical Secretary" should have been transposed downward, for it is really the introductory paragraph of the review of Louis J. Regan's "Medical Malpractice."

UNITED STATES MEMBERS DISCHARGED FROM MILITARY SERVICE

It will be greatly appreciated if members of the United States Chapter who have been in military service and are discharged will notify the Business Secretary promptly of their return to civilian status and send him a correct address.

NEW BOOKS

The importance of the use of autogenous bone for the purpose of stimulating osteogenesis and obtaining union in the treatment of fractures where healing is delayed or pseudarthrosis has occurred has been emphasized by many orthopedic surgeons. Technics have varied, and each qualified operator has developed his own preference for the onlay, inlay, osteoperiosteal or intramedullary graft. Methods of obtaining immobilization while the graft and the fracture were uniting have also varied widely.

In his **Bone Grafting in the Treatment of Fractures,**[1] **Armstrong** describes the methods which he himself has used with success. He emphasizes the importance of: (1) close and stable contact of large areas of bone on the graft and the host; (2) secure mechanical fixation of the graft and fracture; (3) removal of fibrous tissue and sclerotic bone from the fracture surfaces before grafting; (4) accurate apposition and alignment of fragments of the host bone; (5) restoration (as nearly as possible) of the architecture of the reconstructed bone at the conclusion of the operation to as near normal as possible.

Armstrong has preferred to use large full thickness onlay grafts, and in most of the cases illustrated he has maintained accurate apposition of the graft by means of metal screws. The technics described and illustrated are logical, and the principles outlined will be acceptable to most surgeons trained in the disciplines of bone and joint surgery. The illustrations are well selected and demonstrate both the methods and the results that can be obtained. This book will be of interest to all who treat old ununited or malunited fractures.

Few physicians realize the magnitude of the contributions of men of their profession to poetry. **Poet Physicians,**[2] compiled by **Mary Lou McDonough,** contains gems gleaned from the literature over a long span, from 750 A.D. to the present.

Most of the poetry is not unusual, being written mostly as an outlet for overstrained emotions, and as often as not during a "night watch" by the bedside of some patient. But along with the lighter verse one finds bits from Tobias Smollett, Oliver Goldsmith, Johann Schiller (friend of Goethe), John Keats, Oliver Wendell Holmes and Havelock Ellis, and the unforgettable "In Flanders' Fields" of John McCrae. In the lighter vein there are contributions from such contemporaries as Victor Robinson and Temple Fay.

The poetry of all the writers is characterized by the keen observation which one expects of men of science, and remarkably often by a humorous philosophy which one does not expect.

Nitrous Oxide-Oxygen Anesthesia,[3] by **F. W. Clement,** is an interesting and timely volume. The rapid strides in specialization and the progress in anesthesia make this book an important contribution. It is heartening to thumb through its pages and find deductions based on the physiology of respiration and research in this particular field.

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[1] Bone-Grafting in the Treatment of Fractures. J. R. Armstrong, M.D., M.Ch., F.R.C.S. A William Wood Book. The Williams and Wilkins Company, Baltimore, 1945. Price $7.00.

[2] Poet Physicians. An Anthology of Medical Poetry Written by Physicians. Compiled by Mary Lou McDonough. Charles C. Thomas, Springfield, Illinois, 1945.

[3] Nitrous Oxide-Oxygen Anesthesia: McKesson-Clement Viewpoint and Technique. Major F. W. Clement, M.C., A.U.S. Second edition, thoroughly revised. Lea & Febiger, Philadelphia, 1945.

The essential features of the book have not been altered in the second edition, except in a more profound study of the details. The concept of the physiology of nitrous oxide–oxygen anesthesia is dealt with in greater detail, and the technic of administration is exceptionally well presented. Above all, the guideposts and pitfalls associated with prolonged oxygen deficiency are aptly presented. One will find a description of the mechanism and treatment of shock, and of the role of carbon dioxide and of the sinoaortic areas in the compensatory reflex mechanism which protects the body in the presence of lowered oxygen intake. The fundamentals of this type of anesthesia have changed not at all. The admonition against persons who put patients to sleep without a thorough knowledge of physiology, pharmaceutics and chemistry as related to surgical anesthesia is timely. Such persons are a menace. They are merely technicians who induce sleep. Without knowledge of the fundamentals underlying the art and science of anesthesia, no one should be permitted to give an anesthetic except in dire emergencies.

Since an integration of anesthesiology is so important, this volume is warmly recommended to the student in surgery, to the intern, and particularly to the person who aspires to become an anesthetist.

Up to the present time too little attention has been given to the constitutional or genetic standpoint in both general and specialized practice of medicine, particularly in clinical endocrinology. **Constitution and Disease,**[4] by **Julius Bauer**, renowned clinical teacher in the field of applied constitutional pathology, familiarizes the reader with the principles of "constitutional thinking" at the patient's bedside and shows convincingly how much can be gained in diagnostic analysis as well as in therapy by interpreting clinical syndromes with a constitutional approach to biologic problems.

Constitution is not a physical entity, but a panel and plan of the total set up of the individual personality. Exogenous factors should not be overlooked. In fact, the interaction between the individual and the environment is continuous from the germinal beginning to the end of life and it is *mutual, each affects and modifies the other*. Especially in nervous disorders, endocrine diseases, allergic conditions, metabolic disturbances and diseases of the hemopoietic system, but also in essential hypertension, arthritism, peptic ulcer and cancer, biologic inferiority of the respective organ system may act as the determining factor for the development of the actual disease.

In calling attention to the intricate organization of the human individual and the fine mechanism of regulation, exercised mainly by the integrative functions of the endocrine and the nervous system, the author teaches physicians to be modest and more reluctant to interfere with the precise working of the living machine without necessity. In respecting the individual constitution and reaction one will avoid many pitfalls and errors in therapy.

The book fulfils what the author had in mind: to stimulate medical thinking and critical sense in evaluating old and new, actual and apparent facts in medicine. And it contributes to the ultimate aim of medicine: to cure sometimes, to relieve often and to comfort always.

Although the war is over, and the personal experience of the authors goes back to World War I, **Strecker and Appel's Psychiatry in Modern Warfare**[5] is well worth reading because of its intelligent approach to the essential psychiatric problems and its frank criticism of shortcomings in dealing with these problems. Psychiatry in general has kept too aloof from education. Psychiatrists have shown a lamentable lack of interest in social psychiatry and sociology. "Many generations will have to pay for the huge neuropsychiatric morbidity rate of this war, if not in blood, certainly in sweat, tears and money. Complacency, apathy, isolationistic psychology have contributed. Psychiatrists and the military were not alone responsible. Unfortunately they reflected the temper of the people instead of assuming leadership."

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[4] Constitution and Disease. Julius Bauer. Second edition. Pp. 247. Grune and Stratton, New York, 1945. Price $4.00.

[5] Psychiatry in Modern Warfare. By Edward A. Strecker and Kenneth E. Appel. Pp. 88. The Macmillan Company, New York, 1945. Price $1.50.

Neuropsychiatric battle casualties in World War I were of the proportion of 1 to 7 of the total; in World War II, 1 to 3, or roughly 30 per cent. In World War I the common neurosis was conversion hysteria. In World War II the preponderant psychoneuroses are anxiety reactions. Effort syndromes have decreased, while gastrointestinal disorders have increased. The present war, which was fought in the stratosphere, in the depths of the sea, in the arctic wastes and in the tropical jungles, with war machines of unprecedented destructive power, of tremendous speed and without any zones of security even in the rear, demanded constant vigilance without relaxation, and accounted for greater tension, unrelievable anticipation and increased fear.

There seems to be a better preparedness with regard to the psychologic readjustment problems of the returning soldier, and here the authors give valuable contributions to the understanding of the returnee and practical suggestions for an attempt to adjust him emotionally, socially, occupationally, culturally and spiritually. It should be borne in mind that the vast majority of military neuropsychiatric diagnoses do not signify an incapacity to become an effective worker and a social success.

The well known author **Arthur Weil**, in his **Textbook of Neuropathology,**[6] presents an excellent review of the present stage of our knowledge in neuropathology, and by his critical discussion of the many unsolved problems with regard to the etiology of nervous diseases he gives a valuable contribution to its clarification. Since neuropathology is no longer merely histopathology, and the microscope is no longer the only tool at one's disposal for study of disease processes, the newest chemical and physiologic data are taken into account, and the results of the investigation of vitamin deficiencies and of the study of the different shock treatments as well as the experiences with virus infection and experimental tumor production are incorporated.

Especially instructive is the chapter about tumors. His classification of brain tumors allows a better understanding of this subject, with its generally confusing nomenclature. As far as the different conflicting theories regarding tumor growth are concerned, the author's own experimental studies with implantation of chemical substances in animal brains give strong support to the chemical and toxic theory. "Each cell is potentially neoplastic and forms its adequate tumor under the stimulating influence of the proper chemical substance."

Two hundred and eighty-seven illustrations and an appendix describing a standard necropsy and the best staining methods enhance the didactic value of the book.

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[6] Textbook of Neuropathology. Arthur Weil. Second edition. Pp. 356. Grune and Stratton, New York, 1945. Price $5.50.

NEWS AND ANNOUNCEMENTS

GENERAL

Pan-American Congress of Ophthalmology—The Second Pan American Congress of Ophthalmology will be held in Montevideo, Uruguay, Nov 26 to Dec 1, 1945 Meetings will be held in the Municipal Hotel Miramar on Carrasco Beach

Pan American Congress of Otolaryngology Postponed—The Pan American Congress of Otolaryngology and Broncho Esophagology has been postponed until the year 1946 The American Academy of Ophthalmology and Otolaryngology is preparing a directory of otorhinolaryngologists in the Americas, which will include the names and addresses of the qualified specialists in the various countries of North, Central and South America and also a list of the societies of otorhinalaryngology, with their present officers, the journals of this specialty with their editors in chief, and the faculties of medicine which have chairs of otorhinolaryngology, with the names of the present incumbents

Latin American Physicians Assist in UNRRA Program—Eight physicians from Colombia and five from Venezuela have come to UNRRA to work on its program of medical and health assistance in the liberated areas of Europe The doctors went to the UNRRA training center at the University of Maryland for a two week orientation course before leaving for overseas From Colombia are Drs Hector Acevedo, Bogota, Gustavo Gomez Hurtado Bogota, Alfonso Gomez, Bogota, Jorge Jimenez, Bogota, Ganzalo Montes, Bogota, Gerardo Paz, Popayan, Carlos Quintero Hernandez, Barranquilla, and Alvaro Ujueta, Bogota From Venezuela are Drs Imelda Campo, Caracas, Victor Estaba Acuna, Caracas, Juan Alberto Gambus, Maiquetia, Francisco Emilio Rodriguez Barquisimeto, and Claudio G Vargas Mendoza, Tovar Estado Merida The Colombians and Venezuelans are the fourth group of doctors to come to UNRRA for European service Nine Cuban doctors have left for overseas, eleven Mexican doctors are now at the training center and Brazil is sending a group directly to Reading, England The doctors will be part of the 450 teams working at displaced persons assembly centers

Sir Alexander Fleming Honored in France—Sir Alexander Fleming, the discoverer of penicillin, has been made a Commander of the Legion of Honor in Paris, France

Pan-American League for Study and Control of Rheumatic Diseases—The Pan American League for the Study and Control of Rheumatic Diseases was recently established Representatives include Argentina, Brazil, Canada, Chile, Mexico, Paraguay, Peru, Uruguay and the United States The officers are as follows president, Dr Ralph Pemberton, Philadelphia, Pa, U S A, vice president, Dr Anibal Ruiz Moreno, Buenos Aires, Argentina, secretary Dr Loring T Swaim, Boston, Mass, U S A, treasurer, Dr Fernando Herrera Ramos, Montevideo, Uruguay The objectives of the league are to strengthen cultural bonds between the countries to further efforts to alleviate suffering from rheumatic diseases and institute preventive measures, to compile and disseminate knowledge and information regarding rheumatism in the respective countries, to unify the nomenclature and classification, to promote scientific investigation and to hold pan American congresses on the rheumatic diseases

Dr Daniel B Kirby of United States Gives Course in Operative Technic in Mexico—The Mexican Ophthalmological Society and the University of Mexico sponsored a one week course in operative technic by Dr Daniel B Kirby The course consisted of lectures and demonstration of operations for cataract, glaucoma, ptosis, strabismus and other ocular conditions In recognition of Dr Kirby's teaching work the University of Mexico appointed him Extraordinary Professor of Ophthalmology

Dr. Zavalia (of–Argentina) in United States—Dr A[illegible] [illegible]ets Zavalia [illegible]fessor of Ophth[illegible] Univ[illegible]

Cordoba, Argentina, has paid a visit to hospitals and clinics in the United States. He visited Dr. Kronfeld's clinic in Chicago and the Eye Clinic at the Medical Center in New York.

British and French Offer Graduate Courses to Medical Army Officers.*—In the first three months of a program of medical and surgical retraining for civilian practice, more than 300 army medical officers have attended six of the leading medical schools in England and France since June. In addition many officers have been placed by the Information and Education Division in Europe and the Office of the Chief Surgeon in numerous hospitals and clinics to observe British and French methods.

One of the English schools selected by the Office of the Chief Surgeon for a continuous program of observation and study is the British Post-Graduate Medical School of the University of London. At the Post-Graduate School medical officers take a six week course in which they attend classes conducted by leading physicians and surgeons of England, make ward rounds as observers and observe in the clinics and operating theater.

At the Hammersmith Hospital, which is cooperating with the University of London, classes are held by the Post-Graduate School in pathology, in general surgery and in obstetrics and gynecology. Two other hospitals in London are used by medical officers at the school, although they are not regularly used by the University of London. These hospitals are the Chelsea Hospital for Women and Queen Charlotte's Maternity Hospital.

There are courses in neurology at the National Hospital for Nervous Diseases, London, in psychiatry at the York Clinic of Guy's Hospital, London, and at the Sutton Emergency Hospital, Sutton, Surrey, and in orthopedics at Queen Mary's Hospital, London.

Courses are being conducted at Oxford University, the Royal Army Medical College and Liverpool University Medical School, while other courses will be offered at other times in additional schools.

In France the Information and Education Division placed thirty-five medical officers the Faculté de Médecine of the University of Paris as observers in clinical research, diagnosis and surgery in eight hospitals in the Paris area. Hospitals being used for these studies in neurology, psychiatry, gynecology and obstetrics are the Clinique Baudeloque, Hôpital Broca, Hôpital de la Pitié, Asile Sante-Anne, Hospice de la Salpêtrière, Clinique Tarnier, Hôpital de Vaugirard and La Maternité.

Dr. Zamora (Bolivia) in St. Louis.—Dr. Mario Michel Zamora, of Bolivia, is now working under Dr. Roland Klemme in St. Louis, under the plan of the International College of Surgeons whereby younger surgeons are enabled to study and gain experience with men established in their special fields.

French Radiologists Request Reprints.—Radiologists in France will appreciate it if radiologists in the United States will send them reprints of articles published since 1939 on radiology (diagnostic), roentgen therapy, radium therapy and neutron therapy, electrology and cancerology. The appeal was sent to Dr. Ursus V. Portmann, Cleveland, Ohio, by Dr. Robert Coliez, president of the Hospital Radiologists of Paris. Reprints should be sent to Dr. Coliez at 25 Rue Franklin, Paris, xvième, France.

DENMARK AND NORWAY

Status of Science in Denmark and Norway.—A recent visit of a representative of the Royal Society of London, England, to Denmark and Norway revealed the following conditions, as reported in *The Times* (London):*

"Science in Denmark has not suffered as badly as in most countries occupied by the Germans. Until the autumn of 1943 the invaders were on their best behavior, but at that time the *Gestapo* became active and students ceased to attend the colleges. Professor Rehberg, the zoologist, was brutally mishandled by the Germans for lack of cooperation, and he and a good many other men of science were imprisoned, but escaped when the prison was very skillfully bombed by us. Research, however, continued in the laboratories which were not despoiled, and much excellent work has been published in the *Proceedings* of the academy.

"Food is in good supply and the generous Danes have done and are doing sterling work in collecting food for Norway and Holland Their chief scientific need is books and journals, and English text books for students To show how quickly the Danes have been able to establish themselves, they are contemplating an expedition next year for marine biological investigation, a subject in which they have high traditions, off the west coast of Africa They already have a ship and funds They trust that our authorities will facilitate the work, in which they will gladly welcome the aid of the British biologists

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* From Medicine and the War, J.A.M.A. 129:248 (Sept. 15) 1945.

* Quoted from Science 102:170, 1945.

"Norway has suffered much more than Denmark The president of the academy, Professor Bull, was three years in a concentration camp the scientific laboratories have been stripped of apparatus and the departments closed In consequence, little scientific work has been carried out during the war and the Norwegians are having great difficulty in getting their courses started again Medicine in Norway attained, before the war, a very high standard, and it is most desirable that medical instruction should get under way as soon as possible The Danes are taking a large number of Norwegian medical students, and Norway is anxious that some of her best post graduate students should study in England These men are ready to come now and there are very real reasons why we should help Norway's geologists are anxious to serve for a period in our surveys abroad and her oceanographers and biologists would gladly take part in our expeditions"

ARGENTINA

Dental Care for Children Obligatory.—Dental care for children of school age and adolescence is obligatory in Argentina On entering school children have a dental examination, the results of which are recorded and kept on file The examinations are repeated periodically The parents are notified when the children require dental care, which can be given by the family dentist or free in the dental national centers Parents who break the law are fined Teachers may be penalized with a fine Repeated infraction is punished with temporary closure of the school if private or with discharge of the teacher if the school is operated by the government

Report of Treatments for Cancer Required—A law was recently passed requiring that all reports of the use of drugs or treatments for curing cancer should be made to the National Department of Public Health before being published The law was based on the harm which may result to laymen from neglecting cancer while taking a useless treatment The authorities of public health all through the country have given radio lectures discussing the scientific treatment of cancer and advising people to stay away from charlatans

ENGLAND

Pen Picture of New Fellow, Alfred George Timbrell Fisher, M C Mb, Ch B, F.R C S. (Eng), F I C S—Alfred George Timbrell Fisher was born in 1888 He received his medical education at Bristol University and St Bartholomew's Hospital, London His early appointments were as senior house surgeon and surgical registrar, Bristol General Hospital, and as chief demonstrator of anatomy and lecturer on surgical anatomy at the University of Bristol

During World War I he was a major in the Royal Army Medical Corps and surgical specialist and was with a field ambulance for a time He was awarded the Military Cross in the field for "conspicuous gallantry and devotion to duty"

After the war Mr Fisher went to London and was appointed assistant Surgeon to the Dreadnought Hospital, lecturer and demonstrator on operative surgery to the London School of Clinical Medicine, Assistant to the Surgical Unit at University College Hospital, surgical specialist to the Ministry of Pensions and assistant in the orthopedic department of St Bartholomew's Hospital

During this period and in the subsequent years Mr Fisher engaged in considerable original research, partly in collaboration with the Medical Research Council The principal subjects of this research have been (1) osteoarthritis and other diseases of joints, (2) physiology of joints, including structure and functions of articular cartilage and synovial membrane, (3) loose bodies in joints, (4) internal derangements of the knee and other joints He has endeavored (successfully he hopes) to place the subject of manipulative surgery on a scientific basis

Mr Fisher was the first to hold the high honor of being Hunterian Professor of the Royal College of Surgeons of England in successive years, and was also the youngest man to be so appointed He has lectured all over the world on the subjects of his research and has devised new methods of approach to the knee joint, which receive notice in most textbooks on operative surgery and are performed by surgeons all over the world.

He has written three standard monographs, one of which has reached a fourth edition and has had a large sale in the United States as well as in England.

Mr. Fisher now practices almost exclusively in orthopedics. He is senior trustee of the Empire Rheumatism Council. He is also a founder member of the Executive and Scientific Committees of the Council and assisted Lord Horder, the chairman, in drawing up the Plan for National Action in Connection with Rheumatism. He is chairman of the Nomenclature Committee of the Royal College of Physicians' Committee on Rheumatic Diseases. He is on the active staff of various hospitals: these appointments include acting as orthopedic surgeon to the Order of St. John Clinic for Rheumatism and Other Diseases and to the pioneer Rheumatism Unit of the L.C.C. at St. Stephen's Hospital, London.

He is a Commander of the Order of St. John of Jerusalem, a corresponding member of the American Academy of Orthopaedic Surgeons, a Fellow of the Royal Society of Medicine and a member of the British Orthopaedic Association. During the recent war he has continued these activities and has also worked as orthopedic surgeon in the government's emergency medical service.

British Medical Association Passes 50,000 Mark.—For the first time in its history, the membership of the British Medical Association has exceeded 50,000. On Sept. 2, 1939, the number was 39,121; in 1942, 41,239, and in July 1945, 50,032. The great increase in these three years seems* to have been due to the Beveridge scheme for a national health service, which threatened to convert physicians into state officials.

BRAZIL

Benedito Montenegro, Pioneer in Gastric Surgery.—In commemoration of the twentieth anniversary of the first performance of partial gastroduodenectomy by Prof. Benedito Montenegro, his friends and colleagues published a special number of the *Revista de Cirurgía de São Paulo.*

SYRIA

News from Dr. Altoonyan.—News has been received from Dr. Altoonyan, of Aleppo, Syria. Since his son left for military service, in 1940, Dr. Altoonyan has carried on the work of his hospital alone except for the help of a young Armenian assistant.

U. S. S. R.

Nicolai Burdenko Elected President of Soviet Academy of Medical Sciences.—Dr. Nicolai N. Burdenko has been elected President of the Academy of Medical Sciences. During the war Dr. Burdenko performed many complicated neurosurgical and pulmonary operations at the front, as chief surgeon of the Soviet Army. He is founder and director of the Institute of Neurosurgery, head of the department of neurosurgery at the Post-Graduate Institute for Physicians, chairman of the Learned Council of the People's Commissariat of Health, member of the Extraordinary State Commission for Investigating German Crimes and member of the U.S.S.R. Academy of Sciences.

Centenary of Ilya Mechnikov's Birth.—On May 15 was celebrated the centenary of Ilya Mechnikov's birth. His contributions in the field of comparative embryology of invertebrates are well known. A monument was erected in his honor, and a gold medal with his name is to be awarded every three years for the best studies in microbiology.

UNITED STATES

Meeting of Hudson Valley Guild.—The Hudson Valley Guild of the United States Chapter of the International College of Surgeons met in St. Francis' Hospital, Poughkeepsie, N. Y., on October 1. Dr. A. A. Berg, international president elect of the College, was the guest speaker. Before his scientific address, on "Ulcerative Colitis," Dr. Berg spoke of the aims and work of the College. He emphasized the need for international sharing of knowledge and pointed out that the surgeons of the future should be diagnosticians as well as competent in surgical technic. Dr. Max M. Simon, of Poughkeepsie, is president of the Hudson Valley Guild.

Educational Program to Commemorate Anniversary of Discovery of X-Rays.—

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* Letter from London correspondent, J.A.M.A. 129:225 (Sept. 15) 1945.

Nov 8 1945 marks the fiftieth anniversary of the discovery of roentgen rays The American College of Radiology will sponsor a nationwide educational program during the week of Nov 5 to 10, 1945, to familiarize the public with the importance of radiology to everyday health and to increase the public's understanding of the medical specialty of radiology

New Medical Journals—A quarterly journal is to be published by the Gerontological Society, Inc The editor in chief is Dr Robert A Moore Washington University School of Medicine St Louis Mo and the first number will appear in the first quarter of 1946 The publisher is Charles C Thomas Springfield Ill The journal will contain articles on various aspects of the problems of aging and the care of the aged

Another new journal recently announced is *Blood The Journal of Hematology* to be published by Grune and Stratton New York Dr William Dameshek Boston Mass will act as editor in chief, and well known hematologists are listed as associate consulting and assistant editors

Anti Vivisection Society Not Legally a Charity—The National Anti Vivisection Society claimed exemption from income tax on the ground that it was a body established for charitable purposes only Mr Justice Macnaghten decided to the contrary since the main object of the society is the total abolition of vivisection and it has been proved that discontinuance of experimentation on living animals would constitute a serious obstacle to the securing of medical knowledge

Lt Col Charles Arnold Back in United States—Lt Col Charles Arnold Secretary of the United States Chapter of the International College of Surgeons, has returned to the United States After his discharge from the Army, he and Mrs Arnold expect to spend three or four months in the West

Six Projects for Improvement of Artificial Limbs—An intensified program for the improvement of artificial limbs which involves six separate projects will be undertaken by the Army in coordination with the National Research Council, according to an announcement by Major General Norman T Kirk, Surgeon General of the Army

In February 1945 the National Research Council through its Committee on Prosthetic Devices which comprises some of the country's outstanding scientists, started work on the problem of providing better arms and legs for amputees Cooperating with this committee are the Veterans Administration Navy, Army National Bureau of Standards, Federal Security Agency and engineers from some of the nation's top industrial concerns

The research activities of the Committee on Prosthetic Devices will continue along the same lines but the Army will give further cooperation in certain additional phases of the program The plan of Army scientists is to complement what is being carried on under the National Research Council auspices

The Army will conduct its research work at Army General Hospitals which are amputation centers The presence in these hospitals of orthopedic surgeons who are handling these amputation cases and the clinical evaluation possible under such circumstances is expected to prove of definite value

The aim of both projects is the general improvement in the quality of artificial limbs, more standardization of parts and the facilitation of production and fitting

The six phases of the program in which the Army will devote its efforts include (1) further development and improvement of knee assembly and ankle assembly, (2) investigation of materials for producing a cosmetic hand or for covering a mechanical hand, (3) evaluation of usefulness of plastics in sockets or limb sections, (4) broad study of metals and alloys used in fabrication of artificial limbs, (5) investigation of fabrics and techniques of manufacture and fitting for protheses at or below the ankle, (6) production of a motion picture record of the Army amputation and prosthetic program

Private industry will play an important part in this program The Committee on Prosthetic Devices of the National Research Council contracts with individual concerns for basic research which is carried on in the laboratories of the company contracted

The government authorizes payment for all expenses under these contracts and the Army through its amputation centers will afford every possible means of cooperation An appropriation has been authorized sufficient to continue this Army project as long as The Surgeon General expects to have amputee

(Continued on page 457)

TECHNICAL EXHIBITS

TENTH NATIONAL ASSEMBLY
of the
UNITED STATES CHAPTER
of the
INTERNATIONAL COLLEGE OF SURGEONS
Chinese Room
Mayflower Hotel
Washington, D. C., December 6 at 1 P.M. and 7–8, 1945

The latest in pharmaceuticals, surgical apparatus and instruments, medical books and products of special interest to surgeons will be on display.

Members and visitors are urged to study these exhibits during recess periods, which will be arranged at frequent and appropriate intervals.

Following are the names of the firms exhibiting and descriptive items.

BARD-PARKER COMPANY, INC.

Danbury, Conn.
Booth 1

The following products will be exhibited: Rib-Back Surgical Blades, Long Knife Handles for deep surgery, Renewable Edge Scissors, Formaldehyde Germicide and Instrument Containers, Transfer Forceps, Hematological Case for obtaining bedside blood samples.

AMERICAN STERILIZER COMPANY

Erie, Pa.
Booths 2 and 3

Demonstrations with a live model will be given on the Albee-Comper Fracture Table devised by Dr. Fred H. Albee. Optional accessories will also be demonstrated during the meeting to show that maximum operative efficiency is obtained with a minimum of surgical time and fatigue.

Demonstrations of our 1075 Major Surgical Operating Table will also be given.

CAMERON SURGICAL SPECIALTY COMPANY

Chicago, Ill.—New York, N. Y.
Booth 4

The Cameron Surgical Specialty Company will show the new Broncho-Esophago-Laryngoscopic Set, the new Cavi-camera for photographing in color through gastroscopes and cystoscopes. New Bollolite Transilluminators, Photo Microlite and Projector. There will also be exhibited the Omniangle Flexible Gastroscope, Binocular Prism Loupe, Mirrolite (the new Headlite), Magniscope, Electro Surgical Units. Walton P. Smith, Eastern Manager, in charge. Eastern Office 250 West 57th Street, New York, N. Y.

THE TECHNICON COMPANY

New York, N. Y.
Booth 5

The Technicon Company will display two instruments of unique interest . . . the AUTOTECHNICON and the SCOPICON.

The Autotechnicon is a machine for automatically processing and staining tissues in preparation for pathologic diagnosis. Remarkable reductions in the time heretofore required for microscopic examinations make obsolete previous hand methods. When it is used for this work, the surgeon may expect a pathologic diagnosis routinely within twenty four hours.

The Scopicon is a device for the magnification projection of the microscopic images of slides and similar material for simultaneous direct study by as many as ten observers. The projected image may also be cast upon a screen with full detail, achieving great magnifications

The spectacular performance of the Scopicon is due not only to a brilliantly designed optical system, but also to the employment of a very high intensity light source, a pressure mercury vapor lamp which delivers a beam of lumens higher than any other projection lamp yet devised. Under such efficient cooling conditions, the slides or microscope are not harmfully effected. Such magnifications as are projected through the oil immersion lens of the microscope come out clearly and intensely. Provision is also made on the machine for the incorporation of a camera for lantern slides or Kodachrome transparencies.

Both machines—the Autotechnicon and the Scopicon—will be in actual operation at all times during the meeting.

MACALASTER BICKNELL COMPANY

Cambridge, Mass.
Booth 5A

Presenting the FENWAL SYSTEM for intravenous fluids, or blood and plasma, and featuring the new POUROVAC seal, a practical vacuum closure for solutions, the sterility of which, during long storage periods, may be constantly determined without breaking the seal. Eliminates waste of unused or out-dated solutions. Serves a secondary purpose of providing a dust proof seal for remaining fluid when only partial contents of a container is required.

THE ALKALOL COMPANY

Taunton, Mass.
Booths 6 and 7

Showing Alkalol, claimed by the manufacturer to be a carefully balanced alkaline saline solution. It is aqueous, containing no glycerine and only a trace of alcohol, dissolving mucus, bland, nontoxic, nonirritating. It is suggested for mucous membranes and irritated tissues and is a comforting, effective wet dressing used postoperatively.

Also Irrigol, an alkaline, saline, slightly astringent powder, readily dissolved in water, recommended as a safe, cleansing vaginal douche, etc. In charge: J. P. Whitters, Jr., W. J. Ford and E. W. LeClair.

THE TOWER COMPANY, INC.

Seattle, Wash.
Booth 8

The Tower Company, Inc., is demonstrating the new Roger Anderson Fracture Table designed for orthopedic and general surgical work. This light but strong aluminum table provides for all fracture, orthopedic and surgical procedures: hip-nailing, skeletal and other types of traction, including vertical, transverse and longitudinal spinal traction, hyperextension of the spine, and application of all casts. The addition of a mattress converts it into a general surgical table. It is outstand-

ing for its simplicity of operation, ease of maneuverability, compact [illegible]
are the 1946 m [illegible]
Splint and a cor [illegible]
for all types of [illegible]
the new Clavicl [illegible]
ment, Henry J [illegible]
Cassette Holder,

THE WM. MEYER CO.
Chicago, Ill.
Booths 9 and 10

In its initial exhibit at the Tenth National Assembly, these forty-one year old manufacturers of medical and dental x-ray equipment will feature their exclusive Head and Specialty X-Ray Unit, which obtains standardized views of the head with the patient in a convenient sitting position. Other office and portable x-ray equipment will be included.

J. R. SIEBRANDT MFG. COMPANY
Kansas City, Mo.
Booths 11 and 12

The new Clayton Transfixion Splints are now offered to the medical profession by Siebrandt. These splints are the results of years of experimental research and development in collaboration with a well known orthopedic surgeon.

They have many advantages over other type transfixion splints. Built of plastic, transparent to x-ray—simple in construction and extremely light in weight and have no complicated mechanism to adjust, they eliminate plaster cast and reduce cost and time of treatment. The exhibit will also include a complete line of bone instruments and fracture equipment, including the Davison Director for hip nailing and the Goodwin Bone Clamp, which simplifies the technic for open reduction when wiring long bone fractures, also a new type Portable Combination Fracture Table with X-Ray tunnel.

THE TOWER COMPANY, INC.
Seattle, Wash.
Booth 13

The Tower Company, Inc., is exhibiting Aire-lite, the new glass plastic bandage for waterproof casts. This newly developed, clinically tested bandage is made from fine flexible strands of Fiberglass and cellulose acetate. After being immersed in the Aire-lite Setting Fluid the bandage is wrapped on smoothly and allowed to dry. The Fiberglass strands assure dimensional stability and great strength. It is the only cast that will admit light and air, is buoyant in water and is all plastic. The cast material is elastic and can be stretched as it is being applied, allowing for true conformation to the slightest deviation in contour. We cordially invite you to examine this material at first hand and to witness an actual demonstration.

F. A. DAVIS COMPANY
Philadelphia, Pa.
Booth 14

F. A. Davis Company has the privilege of presenting
to the m[illegible]ge of Surgeons
and visit [illegible] oks; "Surgery
of the S. [illegible] H. Albee, Ex-
President [illegible] Surgeons, in
collabora [illegible] and Lt. Col.
Harold C [illegible] "The Face in
Health a [illegible], LL.D., D.SC.,
Editor I [illegible] International
College c [illegible] ooks of special
interest [illegible] r booth.

GUDEBROD BROS. SILK CO., INC.
New York, N. Y.
Booth 15

An exhibit consisting of surgical sutures of the nonabsorbable type, by the manufacturers of Champion Silk Sutures, made of pure Asiatic raw silk in the twisted and braided type, untreated; also the Serum-Proof, or noncapillary, type in black and white, wound on spools and in ampules. Champion Silk dermal and tension sutures put up on cards and in ampules. Sutures produced from the new nylon fiber. Sutures produced with so called Dr. Pagenstecher celluloid coating, and the newest suture—Handcraft cotton suture. Other items to be exhibited are the Umbilical Tapes, braided, in various widths, in the flat, round or cord types.

CAMERON HEARTOMETER COMPANY
Chicago, Ill.
Booth 16

The Cameron Heartometer Company is showing the
[illegible]c precision instrument
[illegible] and diastolic blood
[illegible]manent graphic record
[illegible] nctioning of the heart
[illegible] vell as the functioning
[illegible] clearly reveals heart
[illegible] dvanced stages and is
of great value in checking the progress of medication and treatments.

MEDICAL FILM GUILD
New York, N. Y.
Booths 17 and 18

Medical Fil [illegible]
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Hospital and [illegible]
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Medical Film [illegible]
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postgraduate [illegible]
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to the medical [illegible]
of the United [illegible]
charge under [illegible]
Hernioplasty; [illegible]
Treatment of [illegible]
Pediatrics; A [illegible]
the Inflammat [illegible]
bosis; A Clini [illegible]
and Its Trea [illegible]
Pharmacology [illegible]
for Parkinson [illegible]

ETHICON SUTURE LABORATORIES
(Division Johnson and Johnson)
New Brunswick, N. J.
Booth 19

Tantalum to Be Demonstrated [illegible] res made
of the rar [illegible] surgeons
who visit t [illegible] it. Other
new specia [illegible] l needles,
include the [illegible] surgery,
as well as [illegible] e gauges.
Of special interest to urologists, gynecologists and orthopedic surgeons, as well as to general surgeons, will be the tubes of sterile fascia lata in strips and in sheets.

CIBA PHARMACEUTICAL PRODUCTS INC.
Summit, N. J.
Booth 20

Visitors are cordially invited to our exhibit, where a representative will answer questions regarding Ciba specialties, and discuss in detail [illegible] icable
to the n [illegible] and
respirato [illegible] spinal
anestheti [illegible] *TAE,*
effective

SHARP & DOHME, INC.
Philadelphia, Pa.
Booth 21

Sharp & Dohme will have their display at Booth 21, featuring Tyrothricin Concentrate for human use, "Lyovac" Normal Human Plasma, Sulfamerazine, "Sulfasuxidine", "Caligesic" Ointment, a greaseless, anesthetic and analgesic ointment which possesses specific anti pruritic action, and "Prothricin", a new antibiotic nasal decongestant. A cordial welcome awaits all visitors.

SCHERING CORPORATION

Bloomfield, N. J.
Booth 22

Schering Corporation, in line with their policy of bringing out the latest in endocrine research, is featuring *the new estrogenic product*—ESTINYL Tablets.

ESTINYL, a derivative of the natural hormone alpha-estradiol, is most economical and is orally effective in dosage of 0.02 and 0.05 mg. It produces very little nausea and toxic side effects.

*Other Schering preparations on display will be Oreton-*F Pellets, ORETON, ORETON-M Tablets, PROGYNON-B, PRANONE, PROLUTON and CORTATE, and the diagnostic products for x-ray examinations—NEO-IOPAX and PRIODAX.

WHITE LABORATORIES

Newark, N. J.
Booth 23

White Laboratories, Inc., present information regarding White's Sulfathiazole Gum—expressly formulated for topical chemotherapy of oropharyngeal infections.

White's Otomide, a new and more effective means of topical chemotherapy of infections of the ear, is offered for discussion.

White's ethically promoted vitamin specialties are also featured.

ZIMMER MANUFACTURING CO.

Warsaw, Ind.
Booth 24

Zimmer Manufacturing Company will have on display in Booth 24 a full line of *Fracture Equipment. All surgeons* are especially invited to inspect the new bone instruments on display, including the Two Speed Hand Drill and Screw Driver; also the improved Bone Clamps, Key Dual Bone Plate Outfit, Blount Knee Retractor, Waugh Clamps Crego-McCarroll Traction Bow, Webb Bolt Fixation Set, McBride Tripod-Pin Traction Apparatus Curry Hip Nail Reamer, Plaster Saw and Bush Walking Heel.

MEAD JOHNSON & COMPANY

Evansville, Ind.
Booth 25

"Servamus Fidem" means We Are Keeping the Faith. Almost every physician thinks of Mead Johnson & Company as the maker of Dextri-Maltose, Pablum, Oleum Percomorphum, and other infant diet materials—including the new precooked oatmeal cereal, Pabena. But not all physicians in other countries are aware of the many helpful services this progressive Company offers physicians. A visit to Booth No. 25 will be time well spent.

DOHO CHEMICAL COMPANY

New York, N. Y.
Pan American Room

FREDERICK STEARNS & CO.

Detroit, Mich.
Booth 26

Products of interest.

J. B. LIPPINCOTT COMPANY

Philadelphia, Pa.
Grand Ballroom Promenade

Presenting a complete list of Lippincott Selected Professional Books, including Dr. Max Thorek's Modern Surgical Technic and Surgical Errors and Safeguards. New books of significant interest: Bancroft-Murray, Surgical Treatment of the Motor Skeletal System; Thomas *and Haddan, Amputation Prosthesis*; Groff and Houtz, Manual of Diagnosis and Management of Peripheral Nerve Injuries. Advance information on many other new books in active preparation.

LEA & FEBIGER

Philadelphia, Pa.
Grand Ballroom Promenade

In the grand ballroom promenade of the Mayflower Hotel, Lea & Febiger will exhibit among their new works Babcock's Principles and Practice of Surgery, Donaldson's Surgical Disorders of the Chest, Lewin on Backache and Sciatic Neuritis, Burch and Winsor's Primer of Electrocardiography and Olkon's Essentials of Neuro-psychiatry. New editions will be shown of Spaeth's Ophthalmic Surgery, Comroe on Arthritis and Allied Conditions, Boyd's Pathology of Internal Diseases, Ivy and Curtis' Fractures of the Jaws, Clement's Nitrous Oxide-oxygen Anesthesia, Kuntz' Autonomic Nervous System, Kuntz' Textbook of Neuro-anatomy, Kovacs' Electrotherapy and Light Therapy, Gray's Anatomy and other standard works.

JOURNAL OF INTERNATIONAL COLLEGE OF SURGEONS

Chicago, Ill.
Grand Ballroom Promenade

The *Journal* of the International College of Surgeons will be distributed. Information regarding exhibits may be secured here. *Visiting surgeons are invited to leave* their cards if they wish to have the *Journal* or information concerning the *Journal* mailed to them.

J. H. EMERSON COMPANY

Cambridge, Mass.
Pan American Room

Resuscitation and hospital equipment. Represented by William H. Stephenson.

NEWS AND ANNOUNCEMENTS

(Continued from page 484)

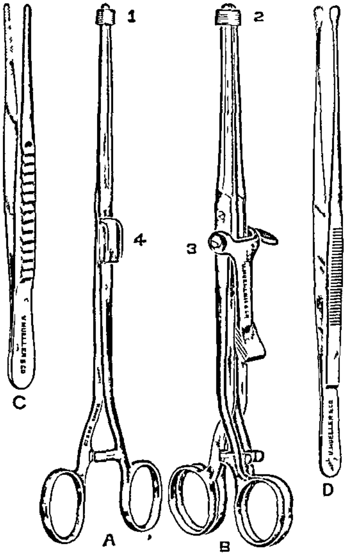
cases in Army General Hospitals. There have been *about 14,000 amputees in Army General* Hospitals in this country since the beginning of this war. Of this total there are now about 8,300 amputees who are in the six amputation centers in Army General Hospitals.

Five per cent of these patients are battle *veterans who have two arms or legs or one* arm and one leg; 9 are triple amputees and only 2 men have lost both hands and both feet. Approximately 95 per cent are men who have suffered the loss of only one limb.

ASEPTIC GASTRIC RESECTION

SPECIAL INSTRUMENTS

By Owen H. Wangensteen, M.D., F.A.C.S.



(A-B) The Wangensteen anastomosis clamp is adaptable to resection and anastomosis in any portion of the alimentary canal Its chief advantage lies in that the two identical forceps are manipulated as separate instruments for the posterior portion of the anastomosis, then locked together as a single instrument for the anterior suturing 11 inches Chrome plated Set of two, *$39 50*

(C) Wangensteen silk suture tying forceps A 5" thumb forceps with finely cross serrated jaws Chrome plated Each, *$2 25*

(D) Wangensteen intestinal forceps A special long finger forceps, 9¾", with rounded tips and finely cross-serrated jaws Chrome plated Each, *$7 50*

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FRANCIS D. MURPHY, M D, F.A C P.

FOREWORD BY

George Morris Piersol, M.D.

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"This volume is the only text with which we are familiar that meets these requirements and makes it possible for the hard-pressed doctor to obtain urgently needed help without searching numerous comprehensive medical texts."

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F. A. DAVIS COMPANY
Publishers
Philadelphia 3, Pennsylvania

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◆

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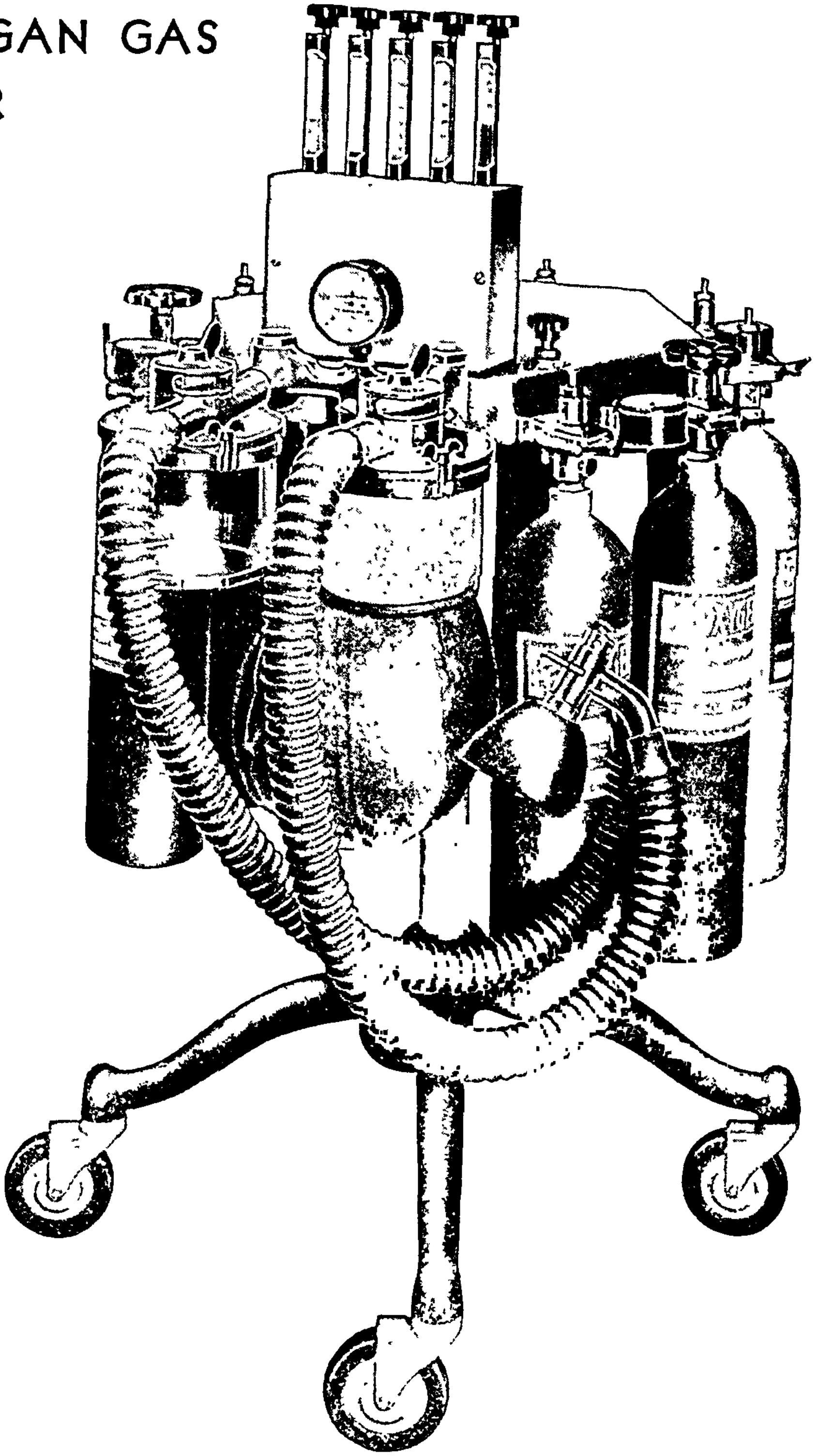

THE BEN MORGAN APPARATUS CO.

1662 West Ogden Avenue
Chicago 12, Illinois, U.S.A.

Sección en Español

Anestesia Local

Algunos detalles indispensables para su éxito

DR. MARIO GONZÁLEZ ULLOA
MÉXICO, D. F., MÉXICO

HASTA finales del año de 1941 hemos registrado 1,047 intervenciones quirúrgicas entre las que quedan comprendidas desde la extirpación de una pequeña cicatriz hasta la restauración de media cara o la corrección de una mastoptosis. De las mencionadas intervenciones, 867 (82 por ciento) han sido hechas con anestesia local: es sobre la experiencia adquirida en esos casos, de lo que trata la presente nota.

En todos los casos sa he utilizado el clorhidrato de procaína como agente anestésico local; de una manera sistemática la concentración de la misma es actualmente: para la cara, al 2 por ciento; para pequeñas intervenciones en el tronco o miembros, al 1 por ciento, y para intervenciones en grandes áreas en el tronco, al 0.75 por ciento.

La nutrida red nerviosa vascular de la cara origina un gasto anestésico de consideración; las soluciones al 1 por ciento nos daban analgesia irregular y de poca duración, en vista de lo cual iniciamos el uso de una solución al 2 por ciento; la analgesia, en impregnación y duración, fué satisfactoria en la mayoría de los casos, salvo en algunos, en que por la larga duración de la intervención se originó el completo desgaste de la analgesia; para esos casos llegamos a usar una solución al 3 por ciento; la insensibilidad se conservaba en aproximadamente 25 por ciento más de tiempo, pero observamos grandes molestias post-anestésicas que obligaron a suspender la concentración citada y continuar el uso de la solución al 2 por ciento.

En el tronco las ramificaciones nerviosas son menos compactas; al principio utilizábamos en las operaciones en áreas extensas (v.gr.: en la operación de la mastopexia) las soluciones al 1.50 o 1 por ciento, pero la cantidad de líquido que era preciso inyectar para impregnar toda la extensa área operatoria era tan grande (de 300 a 500 cc.) que comenzámos a bajar las concentraciones desde 1.5 por ciento hasta 0.5 por ciento; esta última era irregular y de poca duración; en cambio la de 0.75 por ciento nos ha dado un resultado satisfactorio, y por ello hemos continuado regularmente su uso.

En 841 casos (97 por ciento de esta serie) hemos añadido adrenalina a la solución; en el 3 por ciento (26 enfermos) no se ha utilizado por ser los pacientes hipertensos (8), sinpaticotónicos (6), o por haberse utilizado soluciones comerciales de Novocaína Corbasil (12).

La adrenalina se ha utilizado en soluciones al 1 × 100,000 (una gota de solución de adrenalina oficinal por cada 20 cc. de solución anestésica). En ningún caso hemos observado isquemia duradera o esfacelo de los tejidos infiltrados; se ha utilizado aún para mover colgajos pediculado [illegible] no habiendo— [illegible] la fecha—e [illegible]guna cación. La duración de la isquemia adrenalínica es menor que la analgesia provocada por el clorhidrato, lo que a nosotros nos ha parecido una ventaja, pues nos ha permitido cohibir cualquier hemorragia existente antes de dar por terminada la operación; creemos, por tal motivo, que la tan temida "hemorragia secundaria" post-adrenalínica no tiene gran fundamento, sobre todo si se hace una revisión cuidadosa de las heridas y las atenciones post-operatorias son adecuadas.

Las ventajas de la anestesia local (*comprendemos dentro de este término* las analgesias parcelarias, local, regional, circundante, etc.) son indudables; disminuyendo el riesgo operatorio, reduce de una manera notable el período de invalidez postoperatorio, suprime la necesidad de un individuo en el "equipo" operante, reduce los gastos operatorios y permite una franca cooperación del paciente en el acto operatorio, lo que para nosotros es muy conveniente porque permite observar el resultado de una restauración plástica tanto en la actitud estática como en la dinámica, cosa indispensable en las operaciones de los labios, párpados, etc.

Una cosa que notábamos con cierta frecuencia era que el paciente se aterrorizaba al saber que iba a operársele con anestesia local: teníamos la costumbre de discutir, con el enfermo, los detalles de su intervención, ya que ello nos parecía necesario, pues tratándose de una operación plástica, estimabamos sensato darle beligerancia. Hemos comprobado posteriormente nuestra falta de razón: el paciente que va a someterse a una intervención plástica tiene un sólo interés: el ver corregido su defecto. Actualmente charlamos con él a propósito del resultado, hasta ponernos perfectamente de acuerdo, pero rara vez discutimos sobre los menesteres operatorios necesarios para *obtenerlo*; así, le aseguramos que no le molestará absolutamente su operación y no le damos explicación sobre la forma en que se hará su anestesia.

Tenemos la impresión de que la labor anestésica comienza desde varios días antes de la operación y, por eso, se le administra al enfermo durante el período preoperatorio una medicación sedante o hipnótica; por otra parte, se le procura poner en contacto con enfermos operados poco tiempo antes, los cuales le animan y le hacen ver el acto operatorio como algo perfectamente natural y del cual se sale fácil y satisfactoriamente. Esta "confianza por contagio" se ha mostrado verdaderamente útil para combatir el terror preoperatorio; además, tratamos de encamar al enfermo desde la víspera de la intervención para procurarle reposo físico y mental y un sueño agradable para lo cual se usan opiaceos y barbitúricos.

La llegada del enfermo a la sala de operaciones se hace de la manera más grata posible, no ha de ver ningún instrumento y todo el ritual preoperatorio ya se habrá desarrollado de antemano; siempre tenemos un pequeño aparato de radio sintonizado en una estación que nos procure música agradable y suave a fin de evitar el solemne y frío ambiente de la sala de operaciones; se acuesta al paciente, acomodándole cuidadosamente, y durante el tiempo de la operación *evitamos hablar de cosas que puedan sugerirle dolor o miedo,* solicitando los instrumentos con señas o signos.

El colorido en las salas de operaciones parece importante; indudablemente es más tranquila y agradable la estancia en una habitación con colores suaves y hasta alegres (rosa, verde, azul, naranja) que en una con colores muertos (negro, gris, blanco); otro tanto puede decirse de la ropa de operaciones.

En el mañana, se dá al paciente un desayuno ligero, consistente en un vaso de jugo de fruta, una taza de cocoa y dos rebanadas de pan tostado con mermelada Esto evita la hipoglicemia post operatoria y da sensación de comodidad al enfermo Poco tiempo antes de la intervención, se le aplica una inyección del clorhidrato de dihidro oxycodeinone (eucodal) de 0 02 acompañado de un analéptico cardiovascular en gotas o en inyección y dos capsulas de sodium pentobarbitale, media hora de espera basta para que el paciente este tranquilamente dormido, se le transporta a la sala de operaciones, dormido ya, o en indiferente somnolencia, se toma su tension arterial y si no hay depresión cardiovascular se le aplica una nueva dosis de eucodal, con lo cual se aumenta la profundidad del sueño y puede iniciarse la intervencion sin que el enfermo se queje de ninguna de las maniobras que siguen

Manos suaves y gentiles son indispensables ahora, los movimientos bruscos molestan, las pinzas de forcipresión han quedado abolidas en nuestra sala de operaciones para manejar tejidos, la presion de ellas hace sufrir al enfermo y traumatiza sus tejidos

La infiltración de la solución anestésica se hace con *agujas finas de punta muy afilada,* motivo por el cual debe cambiarse frecuentemente las agujas de la sala de operaciones Para intervenciones en pequeñas áreas, en sitios donde el tejido es laxo, puede usarse la jeringa ordinaria Para zonas pequeñas en sitios donde el tejido es compacto y cerrado (encías, nariz, cuero cabelludo) es comodo utilizar le jeringa con aros de apoyo para los dedos con ajuste de bayoneta o del tipo americano (Becton Dickinson) Para inyectar la solución en áreas extensas, es útil el empleo de la jeringa de doble corriente, esto ahorra tiempo y solucion anestésica, a cuyo fin empleamos la jeringa Pitkin (de Becton Dickinson) ordinaria o la automática, la solución la preparamos en copas de 100 cc agregando la adrenalina en esa medida y precisamente antes de utilizarla, de esta manera ahorramos solución, ya que si se prepara gran cantidad añadida de adrenalina y no se utiliza, no podría usarse posteriormente por la oxidación de la misma

Hay ocasiones en que el uso de la adrenalina esta contraindicado, en tales casos nos ha parecido que tiene ventajas la produccion de “isquemia por enfriamiento,” para lo cual, desde tres horas antes de la intervenció aplicamos en el área en que se va a operar una bolsa de hielo (añadido de cloruro de sodio) Hemos de anotar que en los ultimos casos operados en estas condiciones, se ha cambiado la concentración de la solución, haciendola más baja que la normal para ese caso, a pesar de lo cual la regularidad de la analgesia se ha mantenido

La vasoconstriccion producida por enfriamiento es uniforme y por los casos en que la hemos utilizado tenemos la impresión que en su efecto y en su duracion es muy semejante a la vasoconstricción producida por la adrenalina En lo futuro vamos a utilizar este medio fisico de isquemia local en algunas operaciones largas en las que actualmente usamos la concentración de novocaina al 2 por ciento más adrenalina y en las que por su gran duración se tiene analgesia insuficiente en tiempo, por este medio creemos poder ayudar tales casos

La infiltracion anestésica la comenzamos haciendo “papulas de analgesia” retiradas una de otra poco menos de la longitud útil de la aguja, y a una distancia relativamente grande del área operatoria, esto evita molestias al paciente aún en el momento de despegar la piel para favorecer la movilidad de la misma

Para ahorrar tiempo en los casos en que había que infiltrar grandes áreas, hemos aprovechado una idea que reci bimos de Kirschner en su libro de técnica operatoria, donde se recomienda el uso de un aparato para infiltrar la anestesia a presión. Dicho aparato es sumamente complicado, pero la idea nos pareció buena; para ello se usó un matraz con la solución de clorhidrato de procaína y cargado a presión con bióxido de carbono; el resultado dejó mucho que desear ya que la presión disminuía a medida que entraba el líquido y carecía por completo de uniformidad. En vista de esto se nos ocurrió un dispositivo que dió un resultado mejor, pero que las ventajas de la jeringa de doble corriente, que utilizamos actualmente, nos hicieron abandonar.

La anestesia local, en las concentraciones indicadas anteriormente, produce analgesia en un período que oscila entre sesenta y noventa minutos; con preparación adecuada hemos llegado, en ocasiones, a la segunda hora de intervención sin que el paciente muestre señales de sufrimiento, pero en otros casos, al llegar a ese tiempo, se inicia un período de inquietud y de franca hiperestesia que a veces no cede a una nueva infiltración de procaína; para tales casos se inició el uso de anestesia general por vía intravenosa. Este método ha sido satisfactorio cuando lo hemos usado como anestesia de base para casos fuera de la cavidad nasal o bucal; en varias ocasiones en que fué usado como "anestesia de suplemento" (10) para operar en la cavidad nasal o oral, hubo serios fenómenos de colapso respiratorio (5) que en tres ocasiones llegaron al síncope; para combatirlo, hicimos respiración artificial por dos o tres minutos e inyección Picrotoxina y de coramina por vía intravenosa. Por tales motivos no continuamos su uso y en su lugar aplicamos, a la hora media del período operatorio, una nueva inyección de eucodal de 0.02, que se repite a la media hora (si es necesario), inyectando al mismo tiempo algún analéptico cardiorespiratorio. El uso de tales dosis de morfina no origina ninguna molestia posterior; el paciente duerme tranquilo cinco o seis horas o aún más después de la operación, disminuyendo asi gran parte de los transtornos postoperatorios inmediatos.

Uno de los inconvenientes que se le han achacado a la anestesia local, especialmente en el campo de cirugía plástica, es la distorsión que produce al infiltrar los tejidos; tal cosa no es un inconveniente si se ha tenido la precaución de marcar antes de la intervención los puntos de referencia con alguna tinta indeleble, v.gr. solución alcohólica de verde brillante a saturación. De esta manera el edema anestésico no deforma el área operatoria y sí ayuda, produciendo una zona ligeramente más consistente y en la cual se puede incidir con facilidad.

Hasta la fecha no hemos visto ningún accidente atribuible a la anestesia local; tales accidentes parecen deberse a la inyección intravenosa incidental de novocaína y sus características sintomáticas se refieren principalmente a alteraciones en el centro respiratorio y en el aparato vaso-regulador, sobreviniendo un cuadro típico de shock, con intensa dispnea, palidez, opresión precordial, sudor frío, pulso filiforme y en ocasiones muerte.

Como medidas de precaución usamos las siguientes: (1) inyectar la solución al ir avanzando la aguja (con lo cual cualquier pequeño vaso que se encuentra en el camino es rechazado por la fuerza de la solución); (2) aspirar antes de inyectar.

Parece ser que los barbitúricos tienen una acción electivamente antitóxica; la inyección intravenosa de luminal puede ser útil añadida de analépticos cardiorespiratorios y las otras medidas curativas del shock.

La anestesia regional se ha utilizado

en algunas ocasiones, especialmente en casos en los que la infiltración local se considera difícil o molesta (v.gr. uranoestafilorrafia). Si la técnica para localizar el tronco nervioso es correcta, la anestesia de este tipo es muy satisfactoria y dá un período analgésico de una hora y media o dos horas. Para estos casos se ha utilizado procaína al 2 por ciento añadida de adrenalina; recomendamos muy especialmente no inyectar hasta tener la seguridad de "tener el nervio en la punta de la aguja" o en su proximidad, lo cual se sabe por la producción de un intenso dolor fulgurante en el momento en que se toca al nervio. De no observar esta regla, la analgesia es irregular y no puede dependerse de ella ni en intensidad ni en duración.

Cuando es preciso conservar lo solución de procaína por un período de tiempo largo nos ha dado buenos resultados esterilizarla, según el siguiente proceder: El agua destiliada se hace hervir por diez minutos, al cabo de los cuales se añade el clorhidrato de procaína en la cantidad necesaria y se deja hervir por tres minutos más; para conservarla se aplica un tapón de gasa y sobre él se coloca un trozo de gasa o un cuadrado de papel estéril, sobre el cual se aplica otro mayor de papel estaño estéril que se sostienen en sitio con una liga. De esta manera, la solución puede permanecer útil por un tiempo indefinido.

Los cuidados postoperatorios no dejan de tener importancia; sugerimos la aplicación rutinaria de apósito compresivo, el cual contrarresta la tendencia de la herida a "aflojarse" en cuanto desaparece el edema.

SUMMARY

The author describes his experience in 867 operations performed with local anesthesia induced with procaine hydrochloride, in different concentrations according to the site of operation. In 841 cases epinephrine was added to the anesthetic solution. This drug was not used for hypertensive or sympathicotonic patients or with certain commercial solutions of procaine. In no case was lasting ischemia or gangrene of the infiltrated tissues noted. The dreaded "secondary hemorrhage" following administration of epinephrine is really not important if careful postoperative inspection of the wound is carried out and if postoperative care is adequate.

The advantages of local anesthesia are the following: It decreases the operative risk, shortens the period of postoperative invalidity, eliminates the necessity for an extra person on the surgical team, reduces the expense of the operation and permits the cooperation of the patient in the surgical procedure. The last factor is especially important in plastic repairs in which it is necessary to take into account both the static and the dynamic relations (operations on the eyelids, lips, etc.).

A patient is frightened when he learns that he is going to be operated on under local anesthesia; for this reason the type of anesthesia to be used should not be mentioned when he is being prepared for the operation. The work of anesthetization begins several days before the operation, and in the preoperative period the patient is given a sedative or hypnotic drug and in addition is afforded contacts with other persons who have recently been operated on, so that he may gain confidence ("confidence by contagion"). The evening before the operation the patient is put to bed and a pleasant sleep is induced by means of opiates and barbiturates.

It is important that every sensation of discomfort be eliminated for the patient. In the [illegible] given a li[illegible] breakfast, [illegible] befo[illegible]

operation an injection of eucodal (dihydrooxycodeinone hydrochloride) (0.02) is administered, accompanied with a cardiovascular analeptic and 2 capsules of pentobarbital sodium. It is essential that the operative manipulations be made smoothly and delicately and that the use of instruments like, pressure forceps be avoided. Instruments should be requested by means of signs or signals.

The anesthetic is introduced with very fine needles, and the choice of syringe depends on the site of the infiltration. The solution is prepared in quantities of 100 cc., with epinephrine added. One should not prepare an excess, since the solution is not resistant to oxidation. To save time in infiltration of large areas, one may make use of the principle of infiltration by pressure, introduced by Kirschner; it is better, however, to use a syringe with double barrel.

In some cases the duration of the anesthesia has been prolonged into the second hour without the patient showing signs of unfavorable reaction; in other instances the patient begins to be restless and has a spell of obvious hyperesthesia, which sometimes does not yield to a new infiltration of procaine. In such cases one must resort to general anesthesia induced by the intravenous route.

The author describes the disadvantages of this method of local anesthesia and the procedure which can be substituted. Finally, he describes the precautionary measures which should be employed with this kind of anesthesia.

RÉSUMÉ

L'auteur nous décrit son expérience dans 867 cas d'anesthésie locale à l'aide de l'hydrochlorure de procaïne employée en différents concentrations, selon le siège de l'acte opératoire. Dans 841 cas, on ajouta de l'épinéphrine à la solution anesthésiante. Cette drogue ne fut employée ni chez les hypertensifs ni avec certaines solutions commerciales de procaïne. Dans aucun cas, on ne nôto ni une ischémie prolongée ni la gangrène des tissus infiltrés. Il ne survient aucune hémorrhagie secondaire sérieuse consécutive à l'emploi d'épinéphrine si on inspecte soigneusement la plaie ou quand les soins postopératoires de la plaie sont adéquats.

Les avantages de l'anesthésie locale sont: 1. Le risque opératoire est moindre. 2. La période d'invalidisme postopératoire est abrégée. 3. Il y a élimination d'un aide. 4. Le coût de l'opération est diminué. 5. La coopération de l'opéré est obtenue.

Il n'est pas sage d'avertir le malade qu'on va employer l'anesthésie locale. La période de préparation du malade dure quelques jours. Dans cette période préopératoire, on donnera au malade des sédatifs ou des hypnotiques et on le mettra en contact avec d'autres malades qui one été récemment opérés, afin de lui inspirer confiance ("confiance par contagion"). La veille de l'opération on procurera au malade une bonne nuit de sommeil au moyen de la morphine ou des barbiturates.

Il faut éliminer toute sensation de malaise chez le malade. Le jour de l'opération, on lui donnera un léger déjeuner; peu avant l'acte opératoire on lui administera une injection de eucodal (dihydrooxycodeïnone hydrochlorure) accompagnée d'un analeptique cardiaque at de deux capsules de sodium pentobarbital. Il est essential que les manipulations opératoires soient délicates et douces. On demandera les instruments par signaux et non par paroles.

L'anesthésique est introduit à l'aide d'une aiguille très fine. On choisit la

seringue selon le siège de l'infiltration. On prépare la solution en quantité de 100 cc. avec épinephrine. La solution ne resiste pas à l'oxidation Pour anesthésier des régions de grande étendue, on peut infiltrer sous pression, d'après la méthode de Kirschner; il est préférable néanmoins d'employer une seringue à deux cylindres.

Dans certains cas, l'anesthésie a été prolongée près de deux heures sans réactions défavorables. Dans certains cas le malade a une crise d'hyperesthésie qui ne cède pas à une nouvelle infiltration de procaine. Dans ces cas on a recours à l'anesthésie générale obtenue par voie intraveineuse

L'auteur décrit les désavantages de cette méthode d'anesthésie locale et les procédés qu'on peut lui substituer. Il nous donne aussi les précautions qu'on doit observer quand on a recours à cette méthode d'anesthésie locale.

Свод

Автор описывает свои опыт в 867 операциях при местной анэстезии прокаином (procainae hydrochloridis) в разных концентрациях в зависимости от места операции В 841 случаях к раствору был добавлен адреналин Он не употреблялся для гипертенсивных и симпатотонических больных или же с некоторыми коммерческими растворами прокаина Ни разу не была причинена продолжительная ишемия или гангрена инфильтрованных тканей Постоянно пугающее "вторичное кровоизлияние" после применения адреналина в действительности не так важно, если сделан старательный послеоперационный осмотр раны и дан адэкватный послеоперационный уход

Преимущества местной анэстезии следующие она уменьшает оперетивный риск, сокращает период послеоперционного инвалидизма, исключает необходимость лишнего члена хирургического состава, уменьшает расход, дает возможность пациенту кооперировать в хирургической работе Последнии фактор особенно важен в пластических операциях, при которых необходимо принять во внимание как статичное, так и динамичное отношения (операции век, губ и т д).

Больной обыкновенно пугается, когда он узнает, что он будет оперирован под местной анестезией Поэтому не нужно упоминать тип анэстезии пока пациент подготовляется к операции Работа анэстезации начинается за несколько дней до операции, больному даются седативы и помимо этого он помещен в соприкосновение с другими недавно оперированными больными, так, чтобы в нем появилось доверие ("заразное доверие," confidentia per contagione) Накануне операции пациент идет спать под влиянием барбитуратов и препаратов опия

Необходимо предотвратить всякое неприятное ощущение Утром дается легкий завтрак и, перед операцией, укол eucodal'a, 0 02 (dihydrooxycodeinone hydrochloride), кардиоваскулярный аналептик и две капсюли pentobarbital sodium Оперативные манипуляции должны быть ровными и деликатными и необходими избегать употребление таких инструментов, как придавливающие клемпы

Раствор вводится очень тонкими иголками Выбор шприца зависит от места инфильтрации Раствор приготовлен в количестве 100 к см а затем добавляется адреналин Много готовить не советуется, так как раствор окисляется

Чтобы сохранить время при инфильтрации большого поля можно применить принцип инфильтрации давлением по Kirshner'у, но лучше употребить двойной шприц

В некоторых случаях анэстезия продолжалась во второй час и все же пациент не проявлял никакой неблагоприятной реакции, в других случаях больной делается беспокойным и проявляет чувствительность, которая не поддается новой инфильтрации прокаином В таких случаях необходимо прибегнуть к общей анэстезии введенной интравенозным путем

Автор описывает недостатки [illegible] методы местной анэст[illegible] и [illegible] способы. Также он [illegible] дительные меры, [illegible] менении этого [illegible]

LA "Revista del Colegio Internacional de Cirujanos" *(The Journal of the International College of Surgeons)* es una publicación bimestral que constituye el órgano oficial del referido Colegio (fundado en Ginebra, Suiza, en 1935). En esta revista se publican artículos originales de investigación, observación clínica y trabajo experimental sobre temas quirúrgicos. Sirve, además, como vehículo para dar a conocer las actividades del Colegio Internacional de Cirujanos a sus miembros y a todos aquellos que se interesen por los adelantos e innovaciones de índole quirúrgica en el mundo entero.

Los Capítulos Latino-americanos del Colegio Internacional de Cirujanos tienen en ésta revista el medio oficial en que se recogen sus actividades. Actualmente la revista se halla enriquecida por una Sección especial en español en la que se publican no sólo trabajos científicos originales de cirujanos de Hispano-América sino tambien noticias referentes a los miembros y Capítulos de los paises de habla española, así como una información general en relación con la cirugía. A todos aquellos profesionales, cirujanos y médicos, que se interesen por los temas quirúrgicos habrá de serles de gran utilidad el subscribirse a ésta publicación.

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¿Quienes Introdujeron el Algodón en Cirugía?

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EL célebre cirujano de la India, Susruta (siglo V d. de C.), expresó con profundidad de pensamiento, que "la mano del cirujano era el mejor instrumento de la cirugía."

La cirugía, en efecto, es la "obra o trabajo de la mano," desde el punto de vista terapéutico. La mano del hombre . . .! Instrumento maravilloso con el que se han ejecutado obras grandiosas, sublimes, pero también actos demasiado trágicos y horrendos!

Aquel genial griego, campeón del finalismo, que hizo su nombre sinónimo de médico, Galeno (131–210), no pudo contener su asombro al conocer las maravillas que el estudio de la mano le revelaba y afirmó, lleno de convencimiento, que la mano probaba elocuentemente la existencia de Dios.

No obstante, si la mano es el instrumento esencial del cirujano, necesita para realizar sus maravillas terapéuticas, de un conjunto de adyuvantes, de cosas auxiliares, que denominamos "material quirúrgico": hierro, acero, telas, hule, cristal, yeso, etc., que convenientemente preparados y adaptados, son absolutamente indispensables para la obra quirúrgica perfecta.

La cirugía constituye parte integrante del progreso, de tal importancia que los adelantos de muchas industrias han hecho avanzar grandemente a la cirugía.

Entre los integrantes del material quirúrgico, el algodón absorbente es de una utilidad tan grande que bastaría suprimirlo mentalmente, para convencernos de las dificultades e imperfecciones que sufriría la primera y más noble de todas artes: la cirugía!

Por lo cual creo que es no sólo cuestión de curiosidad, sino de elevación cultural y de gratitud, interesarse por conocer a las personas que introdujeron el uso del algodón en cirugía.

La historia de la medicina es una rama enorme de la historia del progreso, por lo cual no llama mucho la atención, que los historiadores, por muy eruditos que sean, dejen de incluir en sus historias ciertas cuestiones que "les parecen" secundarias. El caso es que yo no he podido hallar nada que se refiera a los introductores del uso del algodón en cirugía, en ninguna de las historias de la medicina y aun de la cirugía, que he consultado: Garrison, Castiglioni, Diepgen, Graham, Leonardo, etc.

El algodón, como sabemos, es una borra o pelusa blanca y muy larga, que envuelve las quince o veinte semillas que encierra una cápsula; ésta constituye el fruto de la planta malvácea de flores amarillas, con manchas encarnadas, que se llama también, algodón, o más propiamente, algodonero. Esta planta es originaria de la India y su utilización industrial es muy moderna, representando actualmente una riqueza inmensa, pues el algodón es la base de muchas industrias, siendo una de ellas la preparación del *algodón hidrófilo y esterilizado* para usos médicos!

Un hecho que estimo cierto es el siguiente: no se menciona el uso del algodón, en cirugía, en libros de la antigüedad, de la edad media, ni siquiera de la edad moderna.

Lo que se empleaba en esos tiempos para hacer curas eran hilas y fragmentos de tela de diferentes clases, que eran filamentos y retazos de telas y ropas, generalmente usadas . . .!! Esto tenía, entre otros inconvenientes, el de ser infectantes y nada o muy poco absorbentes. Los franceses denominaban *a esos materiales de cura, "charpie,"* palabra que procede del antiguo idioma francés y que significa en realidad, "pedacería" (hacer pedacitos). El uso de estas hilas y trapos en cirugía, es antiquísimo: baste decir que los menciona Hipócrates (siglo V a. de C.).

Para canalizar las fístulas y llagas profundas, se introducían en ellas hacecillos o manojos de hilas torcidas entre sí: estos eran los famosos lechinos, que se usaron durante siglos. Estas hilas atraían los líquidos patológicos hacia el exterior, obrando por capilaridad.

El uso de hilas, lechinos y trapos, con frecuencia sucios, empezó a abandonarse en la segunda mitad del siglo XIX, es decir, en plena edad contemporánea! Esto se debió precisamente al invento e introducción en cirugía del algodón hidrófilo.

La *información* más lejana y enteramente seria que poseo a este respecto y que pongo a disposición de mis ilustrados colegas para su crítica, es la siguiente:

El médico francés Auguste Tourainne presentó a la Sección médica de la Comisión científica un trabajo titulado "Note sur le coton hydrophile," cuyo trabajo aparece publicado en el periódico de esa sección, o sea en la *Gaceta médica de México,* en el tomo I, no. 7, páginas 105–109, con fecha 15 de diciembre de 1864.

En ese estudio, Tourainne nos dice que ya pasó el tiempo en que se miraba al algodón como producto maléfico, capaz de engendrar todos los males: peste, carbón, fiebre amarilla, etc., y que, a pesar del clamor popular, los tejidos de algodón se han hecho de uso universal. En cambio, costó mucho trabajo para que se aceptara en cirugía y esto se logró gracias a la energía y tenacidad de Mayor, quien hizo ver la inocuidad del algodón, logrando popularizarlo en medicina.

Matias Luis Mayor (1775–1846) fué un notable cirujano suizo, que escribió numerosas e interesantes obras, siendo particularmente conocido por su cauterización por medio de un martillo, mojado en agua hirviendo (martillo de Mayor, 1829).

Los enemigos del uso del algodón en cirugía, entre los que se contaban los más distinguidos cirujanos, le reprochaban a Mayor que su decantado algodón era inútil, ya que no absorbía ningún líquido. Mayor usaba el algodón cardado común y Tourainne se propuso estudiar el problema de la falta de poder absorbente de ese algodón.

Nos refiere que fué testigo, en 1852, del esfuerzo que se hizo en los hospitales de París, a fin de utilizar varias veces, después de lavarlos, los pedazos de trapo que se denominaban "charpie"; esfuerzo inútil: estos se echaban a perder rapidamente, después de estar en contacto con el agua, *apelmazándose,* haciéndose un masacote, que se desintegraba, finalmente, con las manipulaciones. Estos ensayos se hicieron en París debido a que se dejó sentir la escasez de hilas y trapos para las curas.

En 1855, en los hospitales de Constantinopla, Tourainne logró reemplazar la "charpie" por algodón tratado por la lejía y sometido a algunas maniobras, que lo hacían muy absorbente, debido probablemente a que los álcalis disolvían ciertas sustancias grasosas de la pelusa de algodón. A este producto lo denominó algodón hidrófilo, y en 1857 publicó una nota sobre el resultado de sus experimentos.

Describe la manera de usar el algodón hidrófilo, su superioridad sobre las hilas y trapos y el modo de prepararlo, resumiendo así sus ventajas: es económico, abundante, de servicio indefinido, evita el contacto del aire, mantiene uniforme la temperatura del sitio lesionado, absorbe los líquidos excretados y no hay peligros de contagio, ya que los álcalis (lejía) destruyen los virus.

Como Tourainne proponía a la Comisión que se reemplazaran las hilas y trapos por su algodón hidrófilo, ésta nombró a los eminentes cirujanos, Luis Hidalgo y Carpio (1818–1879) y José María Barceló y Villagrán (1819–1872) para que estudiaran el asunto y rindieran un informe. Este fué presentado después de minuciosa observación, resultando no sólo favorable, sino elogioso para el Dr. Tourainne. Es importante tener presente qui Tourainne publicó su "Nota acerca del algodón hidrófilo," el 15 de diciembre de 1864; pero varios meses antes la había dado a conocer a la Sección Médica de la Comisión científica, supuesto que el dictamen de Hidalgo Carpio y de Barceló y Villagrán, está fechado el 7 de septiembre de 1864 (*Gaceta Médica de México*, 1864, tomo I, páginas 103–104).

Por consiguiente, por agosto de 1864 se empezó a usar en México, el algodón absorbente, con fines terapéuticos. ¿Cuáles serán las fechas en que se introdujo el uso del algodón absorbente, en cirugía, en las demás repúblicas de América? Quizás México tenga en esto la primacía, de honroso origen francés.

Este utilísimo invento se fué perfeccionando rapidamente y los industriales lograron poner en manos de la profesión médica el algodón hidrófilo perfecto, por el año de 1887, valiéndose de manipulaciones físicas y químicas, bastante complejas.

Para terminar debo advertir el error en que están ciertos autores, que consideran al notable cirujano francés Alphonnse François Marie Guérin (1817–1895) como el introductor del algodón en cirugía.

Guérin publicó en 1847 su obra titulada, "Sur la fiévre purulente," en la que sostenía la doctrina de que la septicemia se debía a la penetración en el organismo de corpúsculos animados que existen en el aire. En la guerra francoalemana de 1870, llevó a la práctica su doctrina, aislando las heridas del aire, por medio del algodón en rama, para evitar la infección.

Hasta 1885 publicó su famosa obra "Du pansement ouaté et de son application à la thérapeutique chirurgicale" cuando ya el uso del algodón hidrófilo de Tourainne era universal.

Siento no haber podido encontrar más datos acerca de la personalidad del ilustre Dr. Auguste Tourainne.

SUMMARY

The author reviews the historical background of the use of cotton in surgery and points out that he has not been able to find anything about the introduction of this material into surgical practice in any of the histories of medicine or surgery which he has consulted. He describes the structure of the cotton plant, which originated in India. He discusses the extensive modern industrial use of cotton and emphasizes especially the medical use of hydrophilic, sterilized cotton. He says that the use of this material is not mentioned in the books of the ancient or medieval period and is given little attention in modern literature.

He continues with a discussion of the former therapeutic fil nd

fragments of fabrics of different kinds, material which was known in France by the name *charpie.* In order to canalize and drain deep lesions, the famous *lechinos* were used, but these were abandoned in the second half of the nineteenth century as a result of the introduction of hydrophilic cotton.

The first author to report on the use of cotton in surgery was Tourainne, in 1864. Mayor, the famous Swiss surgeon, used combed cotton, and Tourainne studied the lack of absorptive power of this material. In 1855 this surgeon succeeded in replacing *charpie* by cotton treated with lye and subjected to certain procedures which made it more absorbent. The claims of Tourainne were verified by a committee composed of the surgeons Hidalgo and Barcelo, and absorbent cotton began to be employed in Mexico in 1864.

The author points out that Guerin was not responsible for the introduction of the use of cotton in surgery, as certain authors have erroneously reported.

RÉSUMÉ

L'auteur nous donne l'historique de l'emploi du coton en chirurgie et nous dit qu'il n'a pu obtenir aucun rensignement sur l'emploi de cette matière en chirurgie dans les nombreux ouvrages de chirurgie et de médecine qu'il a consultés. Il nous décrit la structure du cotonnier, plante originaire de l'Inde. Le coton est employé en grande quantité dans l'industrie. En médecine on fait un grand usage de coton hydrophile stérilisé. Les livres de l'antiquité et du moyen age n'en parlent pas, et même ceux de nos jours ne lui donnent que peu d'attention.

Il discute l'emploi thérapeutique de différents fibres et fabriques. matériels désignés en France sous le nom de "charpie." Pour le drainage et la canalization les "lechinos" furent employés. On abandonna leur emploi dans la seconde moitié du dix-neuvième siècle lors de l'introduction du coton hydrophile.

Tourainne est le premier auteur qui nous parle (en 1864) de l'emploi du coton en chirurgie. Mayor, le célèbre chirurgien suisse, fit emploi du coton peigné, et Tourainne étudia le manque d'absorption de ce coton. En 1855 Tourainne remplaça la charpie par un coton soumis à l'action de la lessive et à certains procédés qui rendèrent ce coton absorbant. Les chirurgiens Hidalgo et Barceló confirmèrent les communications de Tourainne, et on commença l'emploi du coton hydrophile au Méxique en 1864.

L'auteur nous affirme que Guérin n'a pas introduit l'emploi du coton en chirurgie.

Свод

Автор дает исторический обзор хиругического употребления ваты и обращает внимание на то, что в историях медицины и хирургии, с которыми он справлялся, он не нашел ни одной справки о введении этого материала в хирургическую практику. Он описывает строение ваточного растения, которое происходит в Индии. Он обсуждает широкое модерное промышленное применение ваты и особенно подчеркивает медицинское употребление гигроскопической, стерилизованной ваты. Он говорит, что употребление этого материала не упомянуто в книгах древнего или средневекового периода и мало упомянуто в новой литературе.

Затем следует дискуссия о старом терапевтическом употреблении волокон и обрывков тканей разных сортов, которые были известны во Франции под именем корпии. Для канализации и дренажа глубоких повреждений употреблялись знаменитые "lechinos," но после введения во второй половине 19-го столетия гигроскопической ваты, этот способ был оставлен.

Первым автором сделавшим доклад о

(Continua en página 501)

NOTICIAS y ANUNCIOS

Facilidades para Médicos Iberoamericanos Que Llegan a los Estados Unidos.—En la Academia de Medicina de Neuva York existe una sección denominada Inter-American Bureau of *Medical Information*, *cuyo objeto* es procurar toda clase de facilidades a los médicos iberoamericanos que llegan a los Estados Unidos, con deseos de ampliar sus conocimientos.

La Academia también mantiene en la Quinta Avenida y calle 103, New York, una exposición permanente de los productos farmacéuticos y medicamentos fabricados por las principales casas de los Estados Unidos, con fines culturales y no comerciales.

La Academia de Medicina de Nueva York y su Biblioteca, una de las más nutridas del mundo, invitan cordialmente a todos los médicos iberoamericanos a que visiten la Academia, asistan a sus reuniones científicas y pidan cuanta información necesiten.

Sociedad Venezolana de Cirugía.—El 16 de marzo se efectuó la sesión inaugural de la Sociedad Venezolana de Cirugía en el Paraninfo de la Universidad Central. Una nutrida concurrencia entre le cual se encontraban altas personalidades de círculos científicos y sociales de Venezuela prestigió el solemne acto cultural en donde pronunciaron vibrantes discursos el Dr. Domingo Luciani, Presidente de la Sociedad, y el Dr. Salvador Córdoba, orador de orden.

El Dr. Francisco Nájera, F.I.C.S. (Hon.), que durante varios años fué Embajador de México en los Estados Unidos de América, ha sido designado Secretario de Relaciones Exteriores de los Estados Unidos Mexicanos.

Primer Congreso Internacional de Neurocirugía.*—Entre el 1 y el 4 de marzo del presente año, se llevó a efecto en Montevideo el Primer Congreso Internacional de Neurocirugía, auspiciado por el Gobierno del Uruguay y por la Universidad de Montevideo.

Presidente del Congreso fué el Prof. Alejandro Schroeder y el Prof. Agregado Dr. Román Arana, Secretario General.

Desde todo punto de vista, el Congreso fué un éxito absoluto. Asistieron delegaciones de la mayoría de los países sudamericanos; se presentaron más de 120 trabajos, que representaban el sentir y la labor de los diversos Servicios de Neurocirugía que existen *en Sudamérica y—además—*hubo conferencias a cargo de los Profs. Castex, Houssay y Clemente Estable. La delegación chilena que iba en representación de las Instituciones Asistenciales del pais, además del de la Sociedad de Cirujanos de Hospital, estuvo formada por los Dres. Alfonso Asenjo y Mario Contreras e integrada por los Becados Dres. Esteban D. Rocca y Francisco Rubén Perino, tres de ellos socios de nuestra Institución. Este Congreso sirvió para unir a todos los neurocirujanos y, al lado de la gran importancia científica y profundidad de los trabajos que se presentaron, hubo también una intensa actividad social, debida a la amabilidad de los organizadores. Las misiones extranjeras fueron recibidas por el Presidente de la República, por el Ministro de Instrucción y por el Ministro de Salubridad. La delegación chilena tuvo la inmensa satisfacción de recibir el honor de que, por unanimidad, se acordara que la sede del próximo Congreso fuera Santiago de Chile, en abril de 1947.

El Instituto Central de Neurocirugía y Neuropatología ha iniciado ya las gestiones para darle a este Congreso todo el brillo que merece. Los temas a tratar serán:

a) Tratamiento de los abscesos del cerebro.
b) Hidrocefalias y
c) Relación entre la clínica y la histología de los gliomas.

A raíz del Congreso, la delegación chilena fué invitada a dar conferencias en Rio de Janeiro, San Pablo y Porto Alegre.

III Congreso Americano de Cirugía.*—Los cirujanos de la República Oriental del Uruguay han decidido celebrar en 1946 el III Congreso Americano de Cirugía.

Uno de los miembros más prominentes d la Sociedad de Cirujanos del país vecino, el Dr. Fernando Etchegorry, ha estado de pase por los diferentes países sudamericanos com pulsando las opiniones y dando a conocer l forma en que se llevará a cabo dicho Congreso. El Dr. Etchegorry, que cuenta con una amplia simpatía en todos los círculos quirúrgicos sudamericanos, fué festejado especialmente por la Sociedad de Cirujanos de Chile, ya que ella ha sido la entidad que ha impulsado en forma más entusiasta la celebración de este próximo Congreso. El Dr. Etchegorry fué recibido en una Sesión especial por el Directorio de la Sociedad, y un grupo de ex-presidentes le ofreció una comida en que se brindó por el éxito del Congreso aludido. El Dr. Julio Bahr, Presidente de la Sociedad de Cirujanos de Hospital, atendió especialmente al Dr. Fernando Etchegorry.

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* Reproducido de los Archivos de la Sociedad de Cirujanos de Hospital (Santiago de Chile), junio de 1945.

* Reproducido de los Archivos de la Sociedad d Cirujanos de Hospital (Santiago de Chile), junio d 1945.

Los temas que se discutirán en el III Congreso Americano de Cirugía, son los siguientes:

1—Fractura de la pelvis (tratamiento).
2—Tratamiento quirúrgico del cáncer del esófago, y
3—Cirugía de las vías biliares (complicaciones y secuelas).

Del 4 al 7 de Diciembre se celebrará en Santiago de Chile el VII Congreso Chileno de Cirugía y la XIV Semana de la Experiencia Quirúrgica. Los temas oficiales versarán sobre el cáncer del recto, shock, ectopia testicular y cirugía de la esterilidad en la mujer. Serán Relatores en este Congreso los Drs. Middleton, Piña, Estevez, Yodice, Urrutia, Abud y Cruz.

El Congreso acepta contribuciones a los temas oficiales y, además, habrán Sesiones especiales para temas libres y cinamatografía.

¿QUIENES INTRODUJERON EL ALGODÓN EN CIRUGÍA?

(Continuación de la página 499)

хирургическом применении ваты является Tourainne, в 1864 году. Mayor, знаменитый швейцарский хирург, употреблял чесанную вату, и Tourainne изучал недостаток впитывающего свойства этого материала. В 1855 году этот хирург сумел заменить корпию ватой, обработанной щелочью и подвергнутой различным процессам, сделавших ее более впитывающей. Его заявления были подтверждены комиссией состоящей из хирургов Hidalgo и Barcelo, и в 1864 году гигроскопическая вата начала употребляться в Мексике.

Автор обращает внимание на то, что Guerin'y не принадлежит честь введения хирургического употребления ваты, как ошибочно доложили некоторые авторы.

Original Articles

Variations in Blood Supply of Liver, Gallbladder, Stomach, Duodenum and Pancreas

Summary Based on One Hundred Dissections

NICHOLAS A. MICHELS, M.A., D.Sc.
PHILADELPHIA, PA.

THE arterial vascularization of the liver, like that of the spleen, is so different that in the 100 bodies investigated no two patterns were the same. The hepatic artery showed variations in the number, caliber, origin and distribution of its main branches (two to five), the small terminal branches (ten to sixty-five) being prevailing distributed to the caudate and quadrate lobes. Typically the hepatic artery divides into a right, a middle and a left branch (the middle branch to the quadrate lobe). When the hepatic artery fails to give off a right or a left branch, the missing vessel is replaced by a large artery from the superior mesenteric (right hepatic) or the left gastric (left hepatic) artery. Such replacing arteries should not be confused with accessory hepatic arteries, which, although having the same origin, are essentially supplemental, being present when the right or left hepatic branch from the hepatic trunk is small.

The right branch of the hepatic artery is prevailingly dorsal to the common hepatic duct. In some instances it winds around it, i.e., passes from a ventral to a dorsal position, thus forming a loop around the duct. Branching of this vessel may occur early or late. An early branch, the inferior lobular, distributed to a notched area of the liver which underlies the gallbladder, may readily be mistaken for the cystic artery. An accessory or replacing hepatic artery from the superior mesenteric artery may give off the cystic branch.

Typically the cystic artery arises from the right hepatic artery to the right of the hepatic duct. As a rule it divides into a superficial and a deep branch, the latter being distributed to the medial, nonperitoneal surface of the gallbladder. The site of origin of the cystic artery may be high or low, when the origin is extremely high it usually arises from an ultimate branch of the right hepatic artery and is extremely difficult to dissect. When the cystic artery takes origin from the right hepatic artery to the left of the hepatic duct, it passes anterior to the duct, the right hepatic vessel being behind it. Many bodies have a double cystic artery, i.e., the superficial and deep branches arise as separate arteries from the right hepatic artery or its branches. Occasionally the superficial branch arises from the superior mesenteric or from the retroduodenal artery.

Similar orientation of the cystic artery to the common hepatic duct and the cystic duct is of sufficient constancy to warrant the concept of a cystic triangle

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From the Daniel Baugh Institute of Anatomy, Jefferson Medical College.

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Presented at the Ninth Annual Assembly of the United States Chapter of the International College of Surgeons, October 1944.

the boundaries of which are: inferolaterally, the cyst duct; medially, the common hepatic duct; cephalad, the cystic or right hepatic.

Three types of union of the cystic duct and common hepatic duct were encountered: angular, parallel and spiral. The site of union is more frequently low than high. When it is extremely low (at or just above the superior border of the duodenum) care must be taken in those instances in which the cystic duct runs parallel with the hepatic duct or swerves posterior to it for 1 to 2 cm. before entering the common bile duct. Dealing with such an anomalous cystic duct, the biliary surgeon may inadvertently ligate the common hepatic duct instead of the cystic. Accessory hepatic ducts, surgically considered, may present dangerous arterial relations.

Nearly all textbooks on anatomy and surgery fail to describe the following important arteries:

1. The retroduodenal (posterior superior pancreaticoduodenal) artery. This large, frequently tortuous vessel occurs in all bodies, usually as the first branch of the gastroduodenal artery. After an abrupt course downward and to the right, it passes anterior to the supraduodenal part of the common bile duct and then posterior to the intrapancreatic part of the duct, being distributed in arcade fashion on the posterior surface of the head of the pancreas. From this posterior arcade and its subdivisions (secondary and tertiary arcades) branches are supplied to all three parts of the posterior surface of the duodenum, but in a more copious manner than are distributed the anterior branches from the anterior arcade formed by the superior pancreaticoduodenal and inferior pancreaticoduodenal arteries. The retroduodenal branch unites with a posterior branch of the inferior pancreaticoduodenal artery, or joins the superior mesenteric artery or a jejunal branch independently. The artery gives fine anastomosing branches to the pancreas and larger ascending and descending branches to the common bile duct and in instances supplies the superficial portion of the cystic duct. In certain bodies the retroduodenal artery forms an arcade only for the first and second part of the duodenum; the third part then has a separate arcade from the inferior pancreaticoduodenal artery, the fine branches of which unite with the major arcade.

Aside from its surgical importance in ligations and transplantations of the common bile duct, the retroduodenal is the artery involved in the hidden bleeding which often follows spontaneous rupture of the posterior duodenal wall by ulceration.

2. The supraduodenal artery of Wilkie. This small artery is distributed to the upper border and the anterior and posterior surfaces of the first part of the duodenum. It usually arises from the gastroduodenal artery below the retroduodenal. Often it is not an independent artery but a branch of the retroduodenal or right gastric. It gives branches to the pancreas and common bile duct. It is not an end artery (Wilkie), as it frequently anastomoses with the right gastric, superior pancreaticoduodenal and retroduodenal arteries, and via a transverse branch with the splenic.

3. The dorsal pancreatic (superior pancreatic) artery. This relatively large, important artery is distributed to the posterior surface of the neck of the pancreas. Usually it arises from the celiac (tetrapod) or the first part of either the splenic or hepatic artery.

It may come from the superior mesenteric, middle colic, accessory right hepatic or left inferior phrenic artery or the aorta Passing dorsal to the splenic vein, it terminates in (*a*) a left branch (the transverse pancreatic) and (*b*) a right branch, which unites variously with the gastroduodenal, superior pancreaticoduodenal, right gastroepiploic or inferior pancreaticoduodenal artery The dorsal pancreatic artery may give rise to an accessory right hepatic artery and to the right, left or middle colic artery A branch of it supplies the uncinate process of the pancreas

4 The transverse pancreatic (inferior pancreatic) artery This large vessel nearly always courses along the inferior (dorsal) border of the pancreas, from the neck of the organ to its tail Here it anastomoses with a branch of the arteria pancreatica magna from the splenic trunk or with the arteria caudae *pancreatis from a lower splenic terminal* As a rule, the transverse pancreatic artery is the prominent left branch of the dorsal pancreatic Other sites of its origin are the gastroduodenal, superior pancreaticoduodenal, right gastroepiploic, inferior pancreaticoduodenal and superior mesenteric arteries It may be sufficiently large to constitute an arteria splenica secunda to the spleen Its posterior epiploic branches (two to five) course through the transverse mesocolon, affording the transverse colon an added blood supply

RESUMEN

La vascularización arterial del higado varia grandemente, en 100 cuerpos examinados por el autor no hubo una distribución que se asemejara a otra En este trabajo se describen las características más típicas de la distribución arterial, asi como las variaciones más frecuentes Se describen las siguientes arterias que rara vez se mencionan en los libros de texto. (1) la arteria retroduodenal (pancreáticoduodenal posterosuperior), (2) la arteria supraduodenal de Wilkie, (3) la arteria pancreatica dorsal (pancreática superior) y (4) la arteria pancreatica transversa (pancreática inferior)

RESUMÉ

La vascularisation artérielle du foie varie beaucoup L'auteur a examiné cent cadavres, et le même patron ne s'est rencontré dans aucun des cadavres L'auteur nous décrit la distribution artérielle typique et les variations le plus fréquemment rencontrees Les livres mentionnent rarement les artères importantes suivantes (1) l'artère rétroduodenale (l'artère postero supérieure pancréatico duodenale); (2) l'artère supra duodénal de Wilkie, (3) l'artère pancreatico dorsale (la pancréatique supérieure), (4) l'artère pancreatique transversal (pancréatique inferieure)

Свод

Артериальная васкуляризация печени очень разнообразна В ста трупах не было найдено ни одного похожего сосудистого узора Доклад дает наиболее важные черты и вариации

Описаны следующие важные артерии очень редко упомянутые в учебниках

1 Задняя двенадцатиперстная артерия (retro duodenalis или posterioris superioris pancreo duodenalis)
2 Верхняя двенадцатиперстная артерия Вильки (supraduodenalis Wilkie)
3 Спинная поджелудочная артерия (pancreatis superioris)
4 Поперечная поджелудочная артерия (,)

Bone Plastic Reamputation

DR. NIKOLAI N. BLOKHIN, F.I.C.S.
GORKI, U.S.S.R.

THIS great and difficult war, which has transformed thousands of young and robust people into invalids, has confronted the surgeons of the Soviet Union with the problem of how to restore to these men their lost working capacity. Men who have lost their limbs at the front belong to the group which has suffered most severely. They require exceptionally attentive care, and the problem of providing them with prostheses is correctly considered as of primary importance by all countries involved in this war.

The method of primary amputation used at the front has not provoked dispute. This *primitive guillotine operation* is performed in order to save the wounded man's life and to prevent acute infection at the site of the amputation stump. Certain patients require *only a minor supplementary operation*, removal of scar tissue, skin transplantation, etc. In the majority of cases, however, reamputation is necessary.

Although it is considered urgent to decrease the number of secondary operations, particularly reamputations, by preventive measures, one cannot avoid the fact that reamputation is inevitable for most patients subjected to amputations at the front. This means that in the majority of cases of amputation the operation which finally adapts the stump for prosthesis is a second operation. The fate of the wounded man depends on the way in which it is performed.

Bone plastic operations aimed at preserving the end-weight-bearing capacity of the stump by means of closing the bone marrow canal with a bone transplant are not an innovation. The first operation of this type was performed by the great Russian surgeon Pirogov almost one hundred years ago. Nevertheless bone plastic operations have not been widely used in war trauma, primarily because a resulting flare-up of infection is feared by some surgeons, who *consider that this operation* is also more complicated than the usual type of reamputation and does not give better results. Our acquaintance with *the work of United States Army hospitals* seems to indicate that the use of bone plastic operations on the amputation stump is very limited here. For this reason we feel that it would be *of mutual interest to exchange experiences* regarding this operation.

Two prosthetic orthopedic hospitals for wounded soldiers, located in Gorki, U.S.S.R., where Dr. Kolokoltsev and I are the senior surgeons, have studied approximately 1,000 cases of bone plastic reamputation during three years of war. In these hospitals bone plastic reamputations constituted 30 per cent of the total number of amputations requiring reamputation. The common type of reamputation, with adaptation by the Bunge method, was performed in the remaining cases (70 per cent).

In cases in which amputation above the site of an unhealed wound would result in a shorter than satisfactory stump, the operation was postponed until treatment of the wound was com-

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Presented at the Ninth Annual Assembly of the United States Chapter of the International College of Surgeons, Philadelphia, Pennsylvania, October 1944.

pleted, so that the entire stump could be saved.

Dr. Kolokoltsev's analysis of microflora at the site of the amputation indicated that the presence of a small number of staphylococci need not be a counterindication to bone plastic operation. In the presence of streptococci, preoperative treatment of the amputation stump was initiated and operation postponed.

Preliminary roentgenologic observation of the stump is desirable in order to exclude the possibility of osteomyelitis at the site of the projected operation. The wound is sprinkled with sulfanilamide preceding the operation.

The methods of bone plastic operations on the amputation stump most widely used in the Soviet Union are those of Pirogov, Gritti Stokes and Biers. The methods of Kirschner and Levy are used less frequently. The Kirschner operation will be dealt with in Dr. Kotov's paper, and I shall confine myself to the other methods.

The Pirogov operation is performed at the ankle region in cases in which the patient retains the entire heel bone and the skin of the heel region. Soviet surgeons prefer this operation to the Symes because subsequent to the Pirogov operation the stump gives better support. It also enables one to secure stumps of varying length.

The Pirogov operation is used by us in all cases of reamputation of poor short stumps of the foot following primary amputation by the Chaupart method. Only injury to the calcaneum, osteomyelitis or injury to the skin of the heel is regarded as an indication for amputation at a higher level.

I should like at this point to say a few words concerning the Levy method, which may be successfully used in cases of long below the knee stumps when the heel is either defective or entirely destroyed. In this operation, at a site slightly above the ankle, the sawed off bone end is covered with a bone transplant from the external aspect of the ankle and nourished from the periosteum and fascia by means of a pedicle. The stump end is covered with a frontal skin flap. The Levy stump is shorter than the Pirogov stump. It gives support but has less endurance than the Pirogov stump, which includes not only heel bone but also heel skin accustomed to bearing pressure.

The Biers operation is the most widely used bone plastic method in amputations of the lower part of the leg. Here the sawed off end of the bone is covered with a thin bone transplant from the tibia which is nourished by means of a pedicle. We use the Biers operation in cases in which the stump is long enough to prevent the shortening necessary for a sawed off transplant from hampering its functional capacity. With very long below the knee stumps this shortening is completely expedient, and reamputation is sometimes performed solely or primarily for this purpose.

Thus, for long stumps the Biers operation, which presents no technical difficulties, is completely justified, and we consider the operation advisable if the stump is no shorter than 18 to 20 cm. In cases in which shortening is undesirable and may mar the quality of the stump, a simple reamputation or a Kirschner bone transplant is preferable. Technically, the Biers operation is performed in such a manner that the bone transplant remains connected not only with the periosteum but with the skin flap which will be used to cover the stump end.

The frontal bone end of the tibia is rounded. The bone transplant must not be thicker than 2 or 2.5 mm. and must be taken only from the cortical layer. This operation does not give as hardy a stump as the Pirogov method, since the skin of the lower leg is not accustomed to pressure. Nevertheless, the patient can be supplied with an end-weight-bearing prosthesis shortly after union is achieved.

In operations on the thigh we use the Gritti-Stokes method. The sawed-off bone end is covered with a frontal knee flap which includes the patella. Displacement is prevented by shaping a peg on the posterior aspect of the patella that compactly fits into a matching opening at the end of the thigh bone—the method of the Russian orthopedist, Professor Albrecht.

The Gritti-Stokes–Albrecht operation assures a very hardy, end-weight-bearing stump, covered with knee skin which is accustomed to pressure. This operation becomes impossible, however, if the thigh stump does not include the patella. In this case the method of Kirschner or Biers can be used, although, as previously stated, the latter can be performed only in cases of long stumps, in which shortening does not prevent a satisfactory prosthesis.

There is no question that bone plastic operations cannot and must not be performed in all cases of war amputations. In a series of cases the high level of the primary amputation makes it more advantageous for the patient to preserve length than to get an end-weight-bearing stump. In other cases it is necessary to consider the danger of infection—if, for example, the patient has recovered comparatively recently from an anaerobic infection. Finally, the Gritti-Stokes and Pirogov operations are limited by the fact that the patella or heel bone respectively is necessary.

Nevertheless, a bone plastic operation may be performed without risk in a considerable number of cases, and while improving the quality of the stump it does not appreciably extend the period of the patient's hospitalization.

Our data show that serious complications occur with 2 per cent of bone plastic operations performed early after primary amputation. This refers to cases of considerable suppuration following the Biers operation, necessitating removal of the sequestrated bone transplant. Although a third operation did not have to be performed, the patients were able to utilize only a non-end-weight-bearing prosthesis.

Failures of this type were not encountered with Gritti-Stokes, Pirogov and Levy operations. Mild suppuration, occurring mainly at the sites where drainage tubes were inserted following operation, occurred after 12 per cent of reamputations. These mild suppurations, however, were not adversely reflected in the subsequent prosthesis of the patient.

Roentgenologic observations of the stump after bone plastic operations show, on the basis of extensive material, a smooth union of the transplant and absence of exostosis.

We have observed that with the use of early physical therapy the stump is able to withstand pressure within three or four days following the bone plastic operation. Nevertheless we often supply the patient with a temporary prosthesis of a non-end-weight-bearing type while continuing gradual training to adapt the stump to the use of an end-weight-bearing prosthesis.

The patient who is provided with a prosthesis for an end-weight-bearing stump walks much better, not only because his stump supports weight effectively but also because the sensation he feels when wearing the limb is similar to the sensation felt by a normal man standing on his own two legs. Placing the support at a higher section of the stump results in a new and unfamiliar sensation that interferes with good walking. The man with an end-weight-bearing stump feels as though he stands on his legs, while the man who receives a limb with ischial support feels as though he is sitting in his prosthesis.

CONCLUSION

Bone plastic operation following front line amputation deserves attention and use in cases in which counterindications are not prohibitive. Especially in view of new agents for the prevention of infection, such as the sulfonamide compounds and penicillin, it is completely possible to perform bone plastic operations successfully and to obtain by this method a good end-weight-bearing, resistant stump which is more comfortable and more adaptable to the prosthesis.

RÉSUMÉ

Les opérations osseuses plastiques doivent être considérées et employées dans les cas où aucune contre-indication confronte l'opérateur. Les nouveaux agents pour empêcher l'infection, tels que les composés de sulfonamide et la penicillin, ont rendu possible beaucoup d'opérations plastiques osseuses qui nous permettent d'obtenir des moignons solides et vigoreux, plus comfortables et plus facilement adaptés aux indications prothétiques.

RESUMEN

Las operaciones oseas plásticas a seguidas de la amputación lineal es un método que merece se le preste atención y que se le emplee en los casos donde no existan contraindicaciones que lo prohiban. En vista de la introducción en la terapéutica de los nuevos agentes para combatir la infección, es posible llevar a cabo con exito operaciones óseas plásticas, obteniendose mediante este método un buen muñon de caracteristicas apropiadas más cómodo y más apto para llevar la prótesis.

СВОД

Костнопластика после фронтовых ампутаций заслуживает внимание и применение в случаях, где она не противипоказана. Особенно, ввиду новых антиинфекционных профилактических препаратов, как сульфонамиды и пенисиллин, возможно успешно произвести костнопластические операции так, чтобы получить опорную и хорошо выдерживающую нагрузку культю, более удобно приспособленную к протезу.

Bone Plastic Reamputation of the Thigh

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GORKI, U.S.S.R.

MANY surgeons in the Soviet Union and in other countries consider end-weight-bearing stumps preferable to other types from the point of view of their prosthesis. Their desirability lies in the fact that they permit use of an artificial limb of diminished weight and simplified construction. In addition, they guarantee stability in walking, since the amputee in a way "feels the earth under his feet." Non-end-weight-bearing stumps in many cases necessitate permanent pressure on the tuber ischiadicum, which is unfamiliar and difficult to support and which hampers walking.

The objections raised by critics of end-weight-bearing stumps lie not in their disagreement with what has just been stated but basically in the fact that over a space of time the supporting capacity of the stump lessens and even completely disappears. It seems to us, however, that this does not justify depriving the amputee of the possibility of using an end-weight-bearing stump, even if only for a limited period.

We consider that the best possibility of obtaining end-weight-bearing stumps by operative procedure exists in below-the-knee amputations. According to our observations in the Soviet Union, the Pirogov, Symes, Biers and Kirschner operations all give excellent results. Because of this they have gained wide usage in our hospitals in cases requiring below-the-knee reamputations. It was possible by use of the method mentioned to provide the majority of patients with prostheses that reached no higher than the level of the knee joint.

There is less possibility of securing end-weight-bearing stumps in reamputations of the thigh. The Gritti-Stokes bone plastic amputation, in the opinion of various authorities on the subject and according to our own observations, gives a good end-weight-bearing stump in the area of the lower third of the thigh. Some writers speak of getting a stable end-weight-bearing stump in the middle third of the thigh by the Gritti-Stokes method. Conditions of war, however, especially in amputation centers, indicate that the use of this operation should be very limited, both for thigh and for below-the-knee amputations. It is excluded, first of all, when the thigh stump does not include the patella, and, secondly, indications for its use with a stump of the upper third of the lower leg are limited. Thus, in cases of thigh reamputation we do not regard the bone plastic operation as an accepted method of securing an end-weight-bearing stump.

On the basis of data gathered from all hospitals under the control of the People's Commissariat of Health of the U.S.S.R., the number of thigh amputations following war trauma are approximately equal to the number of below-the-knee amputations. They constitute, however, a far more difficult group with respect to restoration of lost function.

A patient who has had a thigh amputation finds walking much more difficult

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than a patient with amputation of the lower part of the leg, owing to the absence of two groups of major joints. In addition, the surface that can be utilized to fasten the socket of the prosthesis is two or three times smaller than the surface available in below-the-knee amputations. Finally, in non-end-weight-bearing stumps of the thigh, the single anatomic point of pressure in walking with the prosthesis is the tuber ischiadicum. We are in agreement with many writers who, having observed the prosthesis of patients with thigh amputations, point out that their adjustment to weight bearing on the tuber ischii is often a considerably lengthy and unpleasant procedure.

These factors forced us to seek a means of alleviating the condition of this group long before the outbreak of the present war. At the clinic of the Ukrainian Institute of Orthopedics and Traumatology in Kharkov, physical therapeutic methods of acclimating the thigh to pressure after reamputation were selected for this purpose. Our observations showed that securing an end-weight-bearing thigh stump by means of this method requires long and unwearying persistence but that the results achieved completely validate the effort.

As a result of his training, the walk of the patient with an end-weight-bearing thigh stump shows incomparably greater stability and ease than previously, when he had a non-weight-bearing stump. In addition, after therapeutic treatment the majority of amputees begin to walk with a mobile artificial knee joint and refuse to wear a lock, which they previously insisted on in order to prevent mobility. In some cases the end-weight-bearing stump enables patients to abandon the use of the ischium for support.

During the war, which made wide use of operative procedures for treatment of the stump possible, the idea arose of guaranteeing the ability of the thigh stump to bear pressure by bone plastic operation. Our use of the Kirschner method for reamputations of the lower part of the leg in the amputee hospital at Seipolatínsk, Khazakstán, gave good results, and we decided to utilize the principle of this operation to obtain a pressure-bearing thigh stump. During ten months of work in this hospital we performed 15 bone plastic reamputations of the thigh stump in the middle third of the thigh. The postoperative wound healed very quickly in all these cases. We began educating the stump to weight bearing on the twelfth or fourteenth day after operation, exercising it a few times a day. In the beginning of the second month after operation the amputee was fitted with special crutches provided with a platform for support of the stump. The walking time was increased daily. Later this group of amputees were supplied with end-weight-bearing prostheses having free mobility of the knee joint.

The technic which we use for bone plastic reamputation is simple. A flap of skin sufficient to cover the lower surface of the stump is cut out on the anterior aspect of the thigh. The skin on the posterior surface is divided almost perpendicular to the bone of the extremity. Following this the muscle layers are divided conoidally and the bones of the thigh are sawed through. We saw off a ring-shaped bone transplant, 0.5 to 0.75 cm. thick, from the proximal end of the amputated bone, and divide it into several sections. After appropriate modification the transplant is introduced into the bone marrow canal, [illegible] The muscle are then sewed in layers and the skin sutured.

In some cases the diameter of the bone transplant enables us to fit it into the bone marrow canal without division into sections; this facilitates the operating technic and shortens its length.

Our observations relate to a small number of people, and they are recent. Nevertheless our initial results have been satisfactory, and this gives us courage to report our experience in securing end-weight-bearing stumps by means of bone plastic reamputations.

RESUMEN

El autor pone de menifiesto que la mejor posibilidad de obtener muñones de características adecuadas (*end-weight-bearing*) reside en la zona por debajo de la rodilla en las reamputaciones. Es mucho más dificil obtener tales muñones en las reamputaciones de muslo. El autor y sus colaboradores han llevado a cabo 15 reamputaciones de muñones de muslo en el tercio medio del mismo empleando una tecnica por ellos descrita basada en el método de Kirschner para la reamputación de la parte inferior de la pierna. Los resultados obtenidos por estos intestigadores han sido buenos hasta el momento.

RÉSUMÉ

L'auteur signale les moyens d'obténir des moignons satisfaisants dans les réamputations de la jambe éloignées du genou. Cela est plus difficile dans les réamputations de la cuisse. Lui et ses associés ont fait 15 réamputations du tiers moyen de la cuisse, par une technique qu'il décrit. Cette méthode est basée sur la méthode de Kirschner pour réamputation de la partie inférieure de la jambe. Les résultats jusqu'à présent sont satisfaisants.

СВОД

Автор указывает, что лучший способ создания хорошей нагрузочной культи *заключается в подколенной реампутации.* Такую культю трудно получить в бедренной реампутации. Он со своими асситентами произвел 15 реампутаций бедренной культи средней трети бедра, применяя технику основанную на методе Kirschner'а для реампутации нижней части голени. Их результаты были хороши.

New Method of Articulation of the Femur for Difficult Cases After Fracture of the Neck of the Femur

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THIS is the first publication of my original method in any journal. However, I described it in an article in the Jubilee Album dedicated to A. Lambotte, the great bone and joint specialist.

The problem of making a new hip articulation for the femur without its head and neck was posed to me especially in cases of spontaneous fracture of the collum femoris with infection around the fracture. In such cases I oppose attempts to obtain consolidation of the fracture, since they do not promise a good chance for healing. They have been, nevertheless, the only existing treatments.

A study of the skeleton indicated to me the possibility of placing the trochanter minor in the cavitas glenoidalis by turning the leg 90 degrees in the long axis, or, in other words, by supinating the leg 90 degrees. In the cases in question with abscess or gummas in the collum, the cicatrization keeps the trochanter minor in the cavitas, helped by fixation with strong silk sutures and some wire sutures in the surrounding tissues. It is of the greatest importance to stabilize the leg in a position of supination and abduction during the whole period of healing, and this is accomplished by suspension of the leg in a somewhat elevated position. The duration of the immobilization may differ in individual cases, but must be at least four weeks.

REPORT OF A CASE

P. B. was a man in full vigor and apparently in perfect health. He had been in India, and as a result of tabes he was suffering from a spontaneous fracture of the neck of the femur, which had been present for two years when he came to me for treatment. He walked on crutches, and he said: "I am strong and healthy; I am 46; I do not want to live unless it is possible to heal this fracture so that I can throw my crutches away; otherwise I would rather die."

On various occasions attempts had been made to get him a prosthesis which would enable him to walk without crutches, but in vain I advised his doctor, B. Brouwer, the renowned professor of neurology in Amsterdam, the Netherlands, to try to make a new articulation on which it might be possible for him to put the weight of his body.

The patient's susceptibility to infections had induced me to seek and to invent this treatment, and I told him that it was impossible to foresee the result of the operation, and that because of his illness he would be defenseless against possible new infection. This was likely to occur, as I had to operate inside and around an abscess and an old center of infection. However, the patient insisted on undergoing the operation if there would be the smallest possibility of his being able to dispense with his crutches.

Professor Brouwer also encouraged him to run the risk of the operation, since none of the treatments of the two years had shown the slightest results, and he agreed with me that any attempt to consolidate a spontaneous fracture of this nature was neither natural nor logical.

I removed the head and the neck of the femur and disengaged the trochanter from the insertion of the ligaments of the tendon with the help of a raspatorium. After the supination was induced, the patient was put back in his bed, half on his back, half on the side that had not been operated on, and the leg was held in a suspended apparatus in this supine position, stretched at an angle of 45 degrees, so that the weight of the leg could help the trochanter minor to enter the cavity and keep it there. During this operation the trochanter minor had been fixed and attracted as much as possible into the glenoid cavity, maintaining the leg in the position described.

I was merely passing through Amsterdam from France, and the postoperative treatment was left to the surgeon who had assisted me in the operation. Two days later the patient's temperature rose to 40° C. (104° F.), and the suspension of the leg was abandoned. On my return to Amsterdam several weeks later, my colleagues advised that disarticulation be carried out by means of thermocautery. The patient had a large abscess 4 inches (10 cm.) underneath the groin. After examination it was agreed that disarticulation of the leg, especially by thermocautery, would have threatened death because of the weak state of the patient. I opened the abscess at the lowest possible point in the groin. This operation was successful; the temperature went down immediately to normal. The abscess had an outlet through the new canal and soon healed.

After convalescence the patient was given exercises and was able to walk with two sticks, and even to go up the stairs without a stick. Several years later he died of tabes.

RESUMEN

El autor detalla un método original para hacer una articulación de cadera para un femur sin su cabeza y cuello, especialmente indicado en los casos de fractura espontánea del cuello femoral con infección alrededor de la fractura. El fin deseado se obtient colocando el trocanter menor en la cavidad glenoidal mediante supinación de la pierna 90 grados. El miembro es mantenido en esta supinación y en abducción durante todo el periodo de curación, el cual varía en los diferentes individuos pero que se prolonga por lo general lo menos cuatro semanas.

RÉSUMÉ

L'auteur décrit une méthode originale pour la création d'une articulation de la hanche pour un fémur sans col et sans tête. Cette méthode est utile surtout dans les cas de fractures spontanées du col du fémur avec infection périarticulaire. Il place le trochanter mineur dans la cavité glénoïde en supinant la jambe de 90 degrés. Le membre est tenu en supination et en abduction pendant la durée de la guérison. Cette durée varie chez différents individus; la durée moyenne est de quatre semaines.

СВОД

Автор описывает свой собственный способ создания нового бедренного сустава для бедр без головы и шейки, особенно в случаях спонтанного перелома collis femoris с инфекцией вокруг перелома. Желательный результат достигается помещением trochanter minor в cavitas glenoidalis посредством супинации ноги на 90 градусов. Нога держится в супинации и абдукции в течении всего периода залечивания, который, помимо индивидуальный вариаций, продолжается, по крайней мере, четыре недели.

Pilonidal Dimple, Sinus, Cyst and Abscess

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THE therapy of pilonidal disease has long been a subject of debate. Both conservative and surgical measures have been staunchly advocated in the literature. The frequency of recurrence after surgical removal of lesions has led to the development of many operative modifications. Thus there are those who advocate complete excision without closure, those who champion primary suture after excision, advocates of coccygectomy as well as excision of the cyst, exponents of marsupialization, and others who describe methods of partial closure.

Why such a multiplicity of treatments for such simple lesions? In the final analysis the complete removal of the disease is the object of all therapy. The application of well known surgical principles should guide the physician's technic in dealing with disease in this location as in all others. If there is a recurrence after a surgical operation, there has been some defection in the extent of excision, in the judgment as to closure, or in the postoperative care.

I must here stress a little known fact. Most recurrences are not actual regrowths of cyst tissue. They are simply chronic draining postsurgical fistulas. They represent unobliterated dead space and residual infection. Unless these factors can be overcome at the time of operation, it is best not to attempt primary surgery.

It will be of interest, then, to describe pilonidal disease in general and surgical therapy in particular. I should like also to detail my own operation for this condition, and the indications for its development.

ETIOLOGY

The pilonidal lesions under consideration are congenital. About 25 per cent of all infants at birth and about 4 per cent of all adults present evidence of a pilonidal dimple. Such a dimpling of the skin in the sacrococcygeal region is a lesser degree of the congenital failure of fusion that in some cases results in the development of a pilonidal sinus or true cyst.

The varying degrees of failure of proper fusion of the midline ectoderm in this region and the resulting varying degrees of ectodermal invagination are represented successively by the pilonidal dimple, the pilonidal sinus and the pilonidal cyst. Because of the fact that these invaginations are lined with skin, products of dermal activity tend to accumulate within the sinus or cyst space, thus providing an excellent bacterial culture medium. Abscess formation is therefore a common complication.

I shall not discuss here the other theories of origin, such as the preen gland thesis or the neurogenic hypothesis. These are based on interesting phylogenetic and ontogenetic considerations, but are of no practical value in either diagnosis or therapy.

CLASSIFICATION AND PATHOLOGY

A simple classification would include:

I. Pilonidal dimple.
II. Pilonidal sinus.
III. Pilonidal cyst.
IV. Pilonidal cyst connecting with the

V. Pilonidal cyst connecting with the sacral canal and communicating with the subarachnoid space or the central canal of the spinal cord.

Type I, the pilonidal dimple, is very common. It is a symptom-free dimpling of the skin over the sacrococcygeal region. Because it is superficial and shallow, it never becomes infected. The pilonidal dimple may be connected with a very short sinus, and this might be classified as a dimple-sinus, as distinguished from a true pilonidal sinus. The *dimple-sinus* would be characterized by a wide-mouth opening, a caudad direction and absence of protruding hair. The true pilonidal sinus (type II) would, in contrast, present a narrow opening, a cephalad direction and, often, protruding hair. The *dimple-sinus*, of course, like the pilonidal sinus, may become infected, and an abscess may develop. This is a common complication.

Pilonidal sinus openings may be single or multiple, and usually they connect with one or more subcutaneous cystic dilatations (type III). The sinus opening is usually single, and in most cases it is located in the region of the sacrococcygeal articulation. Multiple sinus tracts are usually associated with a large cyst cavity. If there are two cystic dilatations, one is most commonly found just subjacent to the skin, connecting with the other just overlying the sacral periosteum. Sebaceous material and detritus collect in the sinus or cyst cavity. A small tuft of hair may project from the sinus opening, or be found in the cyst cavity on incision.

Types IV and V are very rare. I have had no personal experience with them.

The advent of infection within the sinus or cyst is the usual reason for consultation with a physician. Infection may follow trauma or may develop without remembered injury. The usual signs of abscess formation are then noted. Pain, tenderness, redness, swelling and discharge of purulent material are all in evidence. The infection may burrow and produce lateral extensions, rupturing to the surface as true fistulous tracts lateral to the midline. The infecting organism is usually a staphylococcus or the colon bacillus.

The abscess is usually located lateral to the midline, and not directly in the cyst or sinus. When spontaneous rupture *to the surface occurs, or after in*cision and drainage, an additional sinus is thus created. Such fistulous tracts developing secondary to the infection with abscess formation have no dermal lining.

TREATMENT

The approach may be either conservative or surgical. Injection therapy is a novelty without obvious advantage. It permits the patient to be ambulatory, but excision may also do so. Injection methods are prolonged, tedious and uncertain. I shall not describe these technics here because I believe that they should be employed only if the patient absolutely refuses surgical treatment, and that is rare.

In the acute abscess stage there is no question as to the choice of therapy. Incision and drainage is indicated—never excision. When the infection is completely under control the cyst should be excised.

Certain principles may be outlined to guide one in the choice of surgical procedure.

1. If there has been no infection, complete excision and primary closure is the procedure of choice.
2. If infection has been recently present, the wound should be left open or only partially closed.

3 The size of the resultant wound is an important factor Therefore (*a*) Only a minimum amount of tissue should be excised (*b*) If the wound is so large that it can be closed only with difficulty, it is best to close only partially or not at all

4 Chromic catgut should not be buried Bleeders should be tied with fine silk

5 Dead space should be avoided by careful closure with deep retention sutures

6 Dead space should be avoided by use of a tight postoperative dressing I shall later describe my pressure pack

I have stated that excision may be performed as an ambulatory procedure Before proceeding I shall like to elaborate on this Local analgesia is entirely satisfactory I operate on many patients in the office under local analgesia, and send them home immediately after the operation In most cases, of course, they are advised to remain in bed, particularly after primary closure They are ambulatory only insofar as they do not remain in the office or in a hospital bed after operation If the wound is packed wide open after excision, rest in bed is of limited importance One day is entirely adequate If the patient is hospitalized, analgesia may be local or spinal Inhalation anesthesia is rarely indicated

I shall now detail the technic of my own excision operation The usual procedure is to excise a wide ellipse of tissue, including a larger border area of normal tissue, on all sides of the cyst area There are several disadvantages to this technic First, it is not necessary to excise so large an area, second, healing is delayed, and, third, it often renders primary closure impossible It is necessary to excise only the sinus tract and the cyst wall, with a minimum of surrounding normal tissue

The technic of the operation is as follows The patient is prepared by shaving and antisepsis The partially inverted position is best, with retraction of the buttocks by straps of adhesive tape Analgesia is produced by wide infiltration with 1 per cent procaine hydrochloride solution The needle is also carried deep to the cyst to provide a bed of procaine solution The initial incision is a midline anteroposterior stroke extending through the sinus and cyst This incision will define the depth and the anterior and posterior limits of the excision If the cyst is palpable these limits will be apparent before the primary incision If the cyst is not palpable the initial incision should be abbreviated and then lengthened as required The cyst and sinus tissue will be grossly evident as contrasted with the surrounding normal yellow fat lobules The primary incision is carried only into normal fatty tissue both anteriorly and posteriorly It should not be extended unnecessarily The depth of the incision will be to the sacral periosteum in most cases The next incision is transverse, at the central point of the cyst cavity This incision should extend only into normal fatty tissue on either side of the cyst In this fashion the four outermost points of the excision are established under direct vision and not by the usual guesswork of elliptic excision technic When the cardinal excision points are delineated, they are connected by slightly curved incisions, if such incisions will completely surround the pathologic tissue If irregular extensions of the diseased tissue necessitate altering the lines of connecting incisions, they are so altered to include all the pathologic tissue

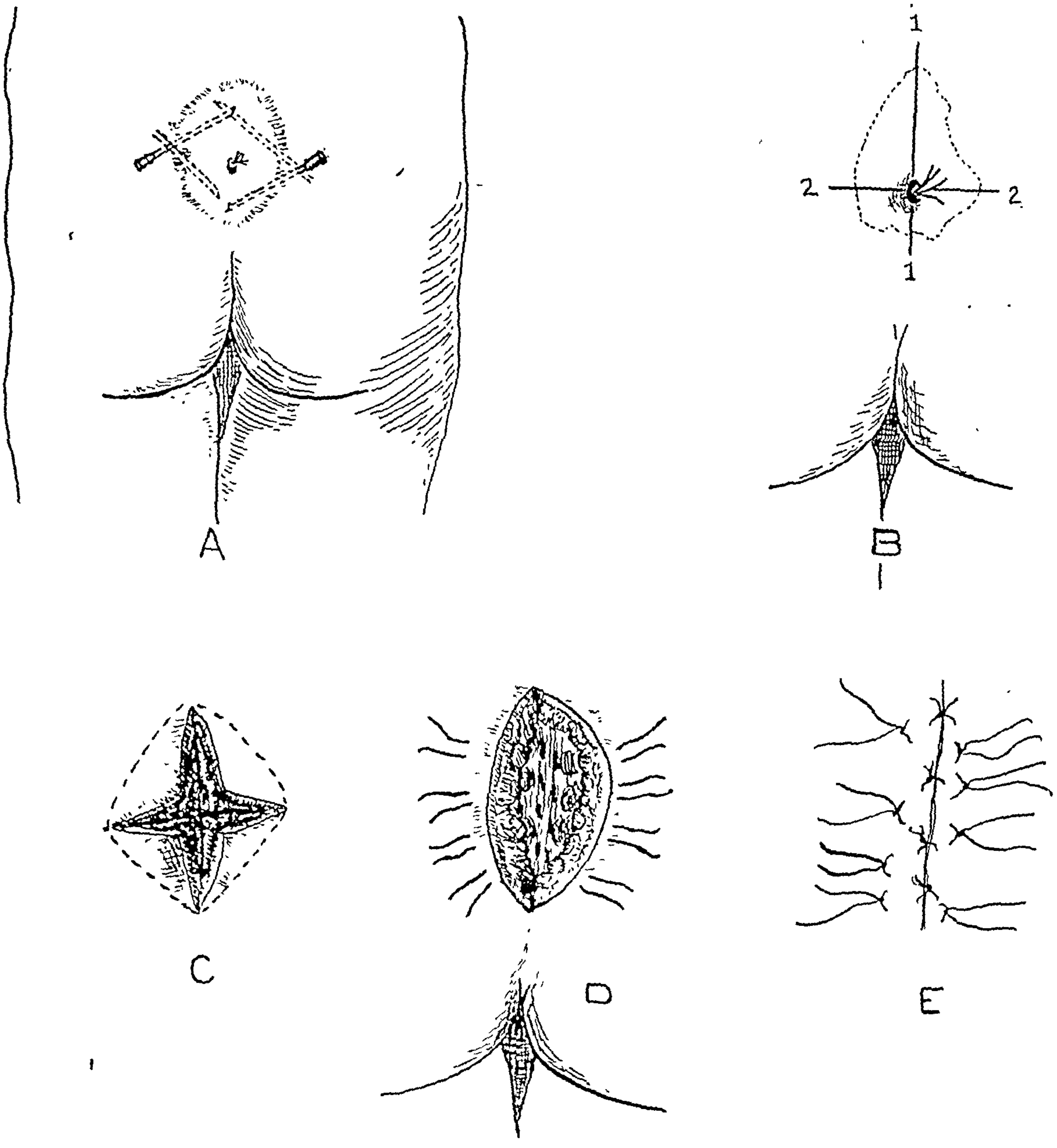

Fig. 1. *A*, Area and technic of lateral point injection for local analgesia. *B*, Anteroposterior *(1)* and lateral *(2)* incisions to outline the extent of excision. *C*, The outermost points connected. *D*, Excision wound: deep sutures placed. *E*, Skin sutures placed. (The long ends of the deep sutures are tied over a gauze roll.)

In most instances only a small block of tissue need be excised. The resulting wound, if this technic is followed, is extremely small in comparison with the usual massive pilonidal excisions.

If the surgeon prefers, the wound may be packed and allowed to heal by granulations. I prefer to use sutures in every case. If the wound should break down, nothing has been lost. It will then only be necessary to open the wound widely and allow healing by granulations. If ample time has been allowed for infection to subside, if hemostasis is complete and if closure carefully avoids dead space formation, the wound will not break down. If the wound is very deep, fine catgut sutures may be mattressed into the sacral periosteum and the fatty tissue of the lateral wall to obliterate the depths. When possible I prefer to avoid burying catgut in the depths of a pilonidal wound. Deep retention sutures of silk or silkworm gut will effectually obliterate deep dead space. These sutures are not tied until all have been placed. They are then tied over gauze rolls to avoid cutting into the skin, for they must be tied tightly. Interrupted black silk sutures are employed for skin closure, a Stewart stitch being used.

The pilonidal pressure pack is then applied. This is a device to produce evenly distributed pressure over the wound. I believe this to be an important factor in causing primary healing. The pressure pack consists of a rectangular rubber bag (such as a blood pressure cuff bag) with the necessary tubes and bulb for inflation. The bag of a sphygmomanometer cuff may be conveniently adapted for this purpose. This bag is encased in sterile gauze and is placed over the wound. Firm, even, broad adhesive strapping is then carried across the wound and pack from the level of the anterior superior iliac spines on both sides. This is applied tightly. The bulb is then attached to the protruding tubing, and the bag is inflated moderately. This insures even, firm air pressure over the excision wound.

The dressing is not changed for at least three days. The adhesive strapping may require reinforcing and the pressure bag may require further inflation, but the basic dressing is not changed. Alternate sutures are removed on the seventh day, and the remainder on the following day.

The value of the pressure pack cannot be overestimated. It is of primary importance to obliterate all dead space at the bottom of the wound. If such a space is formed, with its attendant accumulation of serum and blood, the pressure of this material will mechanically hinder healing. Further, it acts as an excellent culture medium for the development of secondary infection. Deep retention sutures, careful hemostasis and the pressure pack will prevent this unfortunate complication.

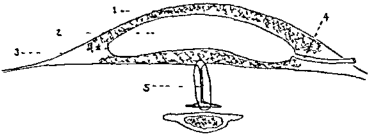

Fig. 2. Pilonidal pressure pack: *(1)* gauze; *(2)* pressure bag; *(3)* adhesive strapping; *(4)* inflation tube; *(5)* pilonidal excision wound (deep sutures in place).

SUMMARY

The etiology, classification and pathology of pilonidal disease are discussed. The rationale of various forms of therapy is considered, and the factors of importance in postsurgical recurrence are detailed.

A new operative technic and a new pressure pack to prevent postoperative development of dead space are described.

RESUMEN

Las lesiones pilonidales son de origen congénito y puedes ser clasificadas como sigue: (I) hoyuelo o peca pilonidal; (II) seno pilonidal; (III) quiste piloni-

dal; (IV) quiste pilonidal en conección con el canal sacro y (V) quiste pilonidal en conección con el canal sacro y en comunicación con el espacio subaracnoideo o con el canal central de la medula espinal. El tipo I es el mâs corriente de todos y los tipos IV y V constituyen lesiones extremadamente raras. El autor afirma que la mayoria de las recurrencias son debidas a un tratamiento defectuoso y describe la tecnica de su método de incisión empleando a un nueva clase de apósito a *presión que previene el desarrollo post*-operatorio de un espacio muerto. La terapéutica puede ser conservadora o quirúrgica. El autor recomienda el método de inyección solo en los casos en que el paciente no autorice la intervención quirúrgica.

RÉSUMÉ

Les lésions pilonidales sont congénitales. On peut les classifier ainsi: (I) fossette pilonidale; (II) sinus pilonidal; (III) kyste pilonidal; (IV) kyste pilonidal communiquant avec le canal sacral; (V) kyste pilonidal communiquant avec le canal sacral et étant en communication avec l'espace sous-arachnoïde ou avec le canal central de la moelle épinière. Les fossettes sont les plus fréquentes. Les kystes communiquant avec l'espace sous-arachnoïdie ou avec le canal central de la moelle épinière sont extrêmement rares. La plupart des récidives sont dues à un traitement fautif. Le traitement est conservatif ou chirurgical. Le traitement par injection ne doit être employé que quand le malade refuse d'être opéré. L'auteur décrit sa méthode personnelle et préconise l'emploi d'un pansement compressif qui empêche la formation post-opérative d'espaces morts.

СВОД

Пилонидальные недостатки являются прирожденными. Их классификация: 1. пилонидальная ямка, 2. пилонидальный синус, 3. пилонидальная киста, 4. пилонидальная киста, соединяющаяся с копчиковым каналом, 5. пилонидальная киста, соединяющаяся с копчиковым каналом и сообщающаяся с субарахноидальной полостью или с центральным спинномозговым каналом. Самым обыкновенным является первый тип, самыми редкими — четвертый и пятый. Автор находит, что рецедивы являются результатом плохой техники. Лечение может быть консервативным или хирургическим. Автор рекомендует иньекцию только, когда больной отказывается от хирургии. Он дает краткое описание его методкии надреза, приспособленного к применению сдавливающей перевязки с целью предотвратить образование свободной полости.

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Principles of Skin Grafting

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EITHER of two types of graft may be chosen for the covering of surface defects: the free skin graft and the pedicled flap. The choice of one or the other depends on several factors, and each has its advantages and disadvantages. For superficial losses, when little or none of the subcutaneous tissue is lost, an intermediate thickness skin graft is usually satisfactory. With modern methods of cutting large skin grafts, the size of the area to be covered makes little difference. The use of a free skin graft usually means a single operation for a given area, whereas the transfer of a flap requires three or four operations at intervals of three or four weeks. On the other hand, pedicled flaps have perhaps a higher resistance to infection than free grafts, their thickness fills out defects in contour, and they undergo little subsequent contraction. The skin of a flap is soft and pliable, and the color remains normal for the part from which it has been removed. Where tendons, important nerves and bone are exposed, a flap with its subcutaneous fat is superior to a free skin graft. The chief disadvantages of a flap are the number of operations required in the transfer and the damage done to the donor site. The chief disadvantages of a free graft are tendency to considerable contraction and poor appearance due to color and texture of the grafted skin. In the selection of a donor area for either a flap or a graft, due consideration must be given to the color and texture of the skin, presence of hair, etc.

HETEROGENOUS GRAFTS

Attempts have been made from time to time to make use of skin from other individuals (homografts) or from other animals (isografts). Isografts are of no value whatsoever and will not be further discussed here. Homografts have been used frequently, and successful transfers from one human being to another have been reported, especially in the newspapers. Serious experimenters along these lines indicate that there is no evidence that homografts succeed permanently, except in identical twins, and that the apparent successes that have been reported are due to imperfect observation over an insufficient length of time. It is the opinion of experienced observers that homografts may apparently heal well for a period limited to a few weeks, but after that undergo absorption and disappear. Homografts, however, have a limited indication in persons of low vitality or with only a small portion of autogenous skin available for grafting. In such cases homografts may be used to cover an area temporarily as a sort of biologic dressing to reduce infection of a large open area until the patient is in condition to have the area covered later [illegible] own skin.

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TYPES OF SKIN GRAFTS

Skin grafts are of several types, one of the most commonly employed being the so-called "pinch" graft, on account of its simplicity of technic and large percentage of successful "takes." These grafts give a poor appearance and should therefore be avoided whenever possible on exposed parts of the body. They are accompanied by a good deal of scar contraction, often causing interference with function around joints. The donor areas from which pinch grafts have been taken present an unsightly appearance, and these areas are ruined as sources for the greatly superior sheet grafts. The chief indication for pinch grafts is to obtain rapid healing of very large denuded surfaces where the supply of skin for sheet grafts is limited and where the cosmetic factor is unimportant. For the great majority of patients today, modern technic has so increased the availability of the larger grafts that there is seldom any excuse for the employment of pinch grafts.

Skin grafts as now generally employed vary according to the thickness of skin removed, from the very thin graft comprising practically nothing but the epithelium (Thiersch graft) to the whole thickness graft, in which all skin layers are represented. As a general rule, it may be said that the thinner the graft the more chance there is for a complete "take." The thinner grafts, however, undergo more shrinkage, and the color, pliability and general appearance are less satisfactory than in the case of the full thickness grafts. Thin epidermic grafts will usually take readily on granulating surfaces, even in the presence of infection, while for success with a full thickness graft it is necessary that it be used only on a freshly prepared raw surface. As a compromise between the two extremes, combining most of the advantages of each and minimizing their disadvantages, some years ago Blair and Brown suggested the split, or intermediate thickness, skin graft, comprising from one half to three quarters of the total thickness of the skin. It is this type of graft that is most frequently employed today. The intermediate skin graft can be made to grow successfully on granulating surfaces, and it undergoes less contracture, with subsequent better appearance and texture, than does the very thin epidermic graft.

Full thickness skin grafts are employed only to cover defects of small or moderate size resulting from excision of scar tissue or to fill in a raw area made by removal of a flap or a new growth. They are not to be used on granulating surfaces. The skin of the donor area is cleansed with soap and water and prepared as for any surgical operation. A pattern is made in tin foil or rubber dam of the exact size and shape of the raw area to be covered. This is placed on the donor surface, and the skin is incised around the edges of the pattern. The outlined area of skin is then dissected off with a sharp knife, care being taken not to include any subcutaneous fat. The edges of the graft should not be crushed with forceps, but preferably handled with small hooks, or sutures placed along the edge as it is raised. After removal of the full thickness skin graft the edges of the defect are undercut, and if the graft is reasonably small the defect can be closed with sutures.

One of the conditions under which the full thickness skin graft has proved most satisfactory is in repair of defects of the skin of the eyelids. The best source of the graft for this is the skin of an intact upper lid. This furnishes skin of the same color, thinness and texture as that of the defective lid. In the absence of available skin from another lid, the next choice is skin from the postauricular and mastoid region. The technic of transfer of the full thickness graft and fixation in its new position is the same as for the more frequently used intermediate graft.

TECHNIC OF USE OF SPLIT, OR INTERMEDIATE THICKNESS, SKIN GRAFTS

The greatest modern advance in skin grafting is undoubtedly the invention of the dermatome by Padgett and Hood. With this instrument, a skin graft up to 4 by 8 inches (10 by 20 cm.) in area and of predetermined thickness, from 0.005 to 0.020 inch (0.125 to 0.5 mm.) can be cut. The thickness of the average graft is 0.015 inch. On a fresh raw surface a graft up to 0.020 inch (0.5 mm.) in thickness can be used, while on a granulating surface a somewhat thinner graft (0.010 to 0.015 inch [0.25 to 0.375 mm.]) will generally be more successful. For children still thinner grafts should be used. The thinner the graft, also, the better chance there is for the same donor area to yield a second crop later. This is important in cases of burns, in which there is a meager supply of donor skin.

Preparation of the Recipient Area.—If a fresh aseptic raw area is to be grafted, complete hemostasis is of great importance.

If a granulating surface is to be grafted, it is customary to discontinue the use of greasy dressings and apply continuous moist dressings for several days before the operation. Fine mesh gauze should be used for the dressings, and adequate pressure should be maintained in order to keep the granulations small. It is believed that the administration of sulfadiazine internally is helpful in controlling infection both before and after the skin grafting operation. The area to be grafted should be free from slough or obvious pus and should have healthy red granulations. Before applying the graft, many operators excise the granulations down to a fresh fibrous base, but if the granulations are small and firm the graft may be applied directly upon them. The raw surface should be as free of oozing blood as possible.

Preparation of Donor Skin Surface.—The selection of the donor skin area is important in some cases, particularly when hair on the grafted skin is undesirable. Where the defect is large, a donor area should be selected from which the largest graft can readily be cut. Probably the easiest place from which to cut a graft covering the entire surface of the dermatome is the abdomen. If hair is present on the donor surface it should be shaved, and the skin cleansed with soap and water, followed by alcohol. The surface should be allowed to dry and should be washed with ether immediately before the application of the rubber cement. This is especially important in hot weather, when perspiration may markedly interfere with adhesion of the cement.

Use of the Dermatome.—The knife blade having been set to cut a graft of the desired thickness, a thin layer of rubber cement is applied with a small gauze sponge to the donor skin area and to the surface of the dermatome drum, the front edge of the drum being covered also. It is important to wait for three or four minutes to allow the cement to dry before proceeding. If the cement is not sufficiently dry the skin will not adhere to the drum surface. The front end of the dermatome drum, held with the left hand, is now pressed firmly down on the donor skin surface, and if adhesion is good the skin can be raised by *slightly lifting the drum*, some of the skin adhering to its front edge. The knife blade then starts cutting with a to and fro movement with the right hand as *the drum is rotated back*. It is important not to press the drum down into the skin, but to elevate the skin with it as the drum is rolled back. If the drum is pressed into the skin surface, the knife blade is likely to cut deeply into the fat at either end.

Removal of the Graft from the Drum and Application to the Recipient Area.—The handling of the graft after it is cut may present some difficulties, especially on account of the cement which adheres to it, causing the surface to stick together in places. We have found that this can be overcome to a great extent in the following manner. After the graft has been cut to the end of the drum, it is left attached to the donor surface at the far end. As it is peeled off the drum, the surface is moistened with blood from the raw surface by the finger. This keeps the cement left on the graft from sticking the surfaces together. After the drum is removed, the graft, still attached at one end, lies on the raw surface of the donor area. The corners are then caught with fine forceps, and the graft is completely severed and transferred by means of the forceps to its new position. If the graft that has been cut is to be divided for use over more than one area, part of it can be severed, and while this part is being applied the remainder stays attached to its original position, the under surface being kept warm and moist by the blood of the raw area. This raw bleeding surface is the best possible place to keep a graft while one is waiting for its transfer. Under no circumstances should a skin graft be placed in saline or other solution, as this tends to wash out the reparative fluids. *The skin graft should be applied* to the recipient surface at about the normal tension of the skin. This is more or less a matter of experimentation and experience. The *graft may* be cut to approximate size and shape previous to its application, or it may be sutured in place partially and trimmed to more accurate fit afterward. It is sutured to the defect at the corners first, and then the edges are closely approximated all around with interrupted or continuous fine silk sutures. *After the edges of the* graft have been neatly sutured in place, contact of the graft with the bed beneath is assured by several quilted sutures placed at intervals. This tends to eliminate dead spaces where blood and serum could collect to prevent healing. Some surgeons make multiple slits in the graft to allow the escape of blood underneath, but I usually rely on the quilted sutures alone. At intervals around the edges of the graft, I place long sutures by means of which the pressure dressing is firmly tied in place. A single layer of fine mesh petrolatum or boric acid gauze is laid immediately on the graft, and a suitable pad of cotton waste wrapped in gauze is placed over this. The pad of cotton waste is secured by tying the long sutures over it. Over all are placed several layers of gauze, the whole then being firmly bandaged, preferably with an elastic bandage. If the graft has been placed on a limb over a joint a splint may be advisable. The donor area, which should have stopped bleeding by this time, is freed of blood clots, and directly over it is applied a layer of perforated cellophane (Silkloid), followed by some petrolatum gauze and plain gauze dressings. The perforated cellophane and petrolatum gauze form a comfortable nonadherent dressing for the donor area and need not be disturbed for ten days to two weeks, by which time the surface beneath should have healed sufficiently for the dressing to be removed without discomfort.

After Care.—The grafted area ordinarily need not and should not be dressed for at least eight days, and if the dressing remains clean with little or no odor or if the patient has no symptoms of sepsis, the first change may be postponed for as long as two weeks. If the dressings become foul and marked infection is present, they should be removed immediately and replaced with continuous moist dressings, pressure still being maintained. If the wound is clean at the first dressing, all or part of the sutures may be removed and a new petrolatum gauze dressing applied. Pressure should be maintained for at least two weeks. During this local care of the patient, his general condition should of course be carefully watched, with due attention to diet, including protein and vitamin needs, and, above all, maintenance of the quality of the blood by transfusions. The use of a sulfonamide compound internally is recommended as a prophylactic measure until the graft is well healed.

RECENT INNOVATIONS IN TECHNIC OF SKIN GRAFTING

Within the last two or three years several procedures have been brought forward in an endeavor to simplify the technic and improve the results of skin grafting. Time does not permit more than brief mention of the most important of these. One is the employment by Sano and others of a "physiologic cement" in the form of solutions of fibrinogen and thrombin applied to the under surface of the graft and to the recipient raw surface respectively. This procedure is said to facilitate healing of the graft and to save time by lessening the amount of suturing necessary. Another innovation, to aid in the handling of the graft, has been described by Webster. A piece of transparent film is applied to the dermatome drum, so that the graft when removed will be spread out over the film. With the film still in place, the graft can then be cut readily to the desired size and shape. Webster has also reported on the use of refrigerated skin grafts. The method has a limited application at the present time, but it can be used as a part of a two stage procedure for patients whose general condition will not stand a prolonged one stage operation

RESUMEN

El autor describe los tipos generales de injertos cutáneos que pueden ser usados para la reparación de defectos superficiales y detalla la técnica para el empleo de los injertos cutáneos incindidos (es decir, de grosor intermediario) en la cirugia reparadora.

RÉSUMÉ

L'auteur nous décrit les types de *greffage de la peau les plus employés* pour rémédier aux défauts de surface. Il nous décrit so technique personnelle pour l'emploi de la greffe cutanée dédoublée (épaisseur intermédiaire).

СВОД

Автор дает краткое описание обыкновенных типов кожных трансплантатов для восстановления поверхностных дефектов и описывает способ употребления расщепленного ко [illegible] ансплантата [illegible] толщин

Hernia Into the Duodenojejunal Fossa (Hernia of Treitz)

Report of Three Cases

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REPORT OF CASES

CASE 1.—M. F., a white girl 18 years of age, two days before entering the hospital became sick with abdominal cramps which came on about every ten to fifteen minutes. She felt abdominal distention from the first and was slightly nauseated; she had two bowel movements the first day but none afterward.

On her entrance to the hospital her temperature was 100° F., her pulse rate 98 and her white blood cell count 11,000. Her skin was dry and warm; her abdomen was distended throughout, and tenderness was marked over the entire abdomen. The abdomen was tympanitic, and muscle guard was noted, but no apparent rigidity. The patient was still vomiting, and repeated enemas failed to give relief. A continuous suction tube was inserted and the patient observed for twelve hours. The distention of the upper part of the abdomen was relieved, but the rest of the abdomen remained distended and became progressively more tender. The white blood cell count rose to 12,560. A diagnosis of bowel obstruction was made, and an exploratory abdominal operation was decided on.

When the abdominal cavity was opened, no intestines were immediately visible, but instead a large tumor which filled the entire cavity. It had a smooth, gleaming, somewhat transparent covering, through which could be seen the coils of bowel and some fluid. Upward the mass seemed to merge with the mesocolon, and to the left, into the descending mesocolon. Enlarging the incision and pushing the mass to the left displayed the cecum and ascending colon in normal position. The terminal 14 cm. of ileum was densely adherent to the posterior abdominal wall by adhesions and seemed to emerge from the mass at about the level of the third lumbar vertebra. Since it was impossible to explore the left side of the abdomen owing to the size of the sac, an opening was made in the right lateral aspect and carried upward toward the base. After the fluid had been thus evacuated and the somewhat distended bowels revealed, the efferent end, or point of entrance of the bowels into the sac, could easily be felt. Here there seemed to be a tight construction around the first portion of the jejunum, with the somewhat more distended jejunum and duodenum above this point. Two adjacent forceps were placed on the constructing band, and the band was cut after examination revealed no pulsation or apparent arterial involvement. A fairly large vein, however, was ligated at this point. After the distal end of the ileum had been liberated and this portion covered with peritoneum to protect the raw surfaces, the entire abdomen seemed to be in normal condition. The remnants of the hernial sac were not disturbed, and the abdomen was closed in the routine fashion.

The postoperative course was uneventful, with no more vomiting, a drop in temperature and in pulse and respiratory rates, and no symptoms since.

CASE 2.—S. M. S., a white man 61 years of age, became sick four days previous to entering the hospital. The onset was sudden, with sharp pains in the upper part of the abdomen. The pain seemed to be worse about two to three hours after taking food, and it did not seem to make any difference what kind of food. Two days after the onset he began vomiting, and this became progressively worse; but the vomiting was only gastric and pyloric content, with no fecal odor or intestinal content. He seemed to have a good deal of gas after the vomiting began. Distention also seemed to begin with the vomiting.

Examination at the patient's entrance to the hospital revealed a rather severe distention of the lower part of the abdomen and tenderness throughout the abdomen. The whole lower part of the abdomen was tympanitic. but the subcostal region was not. The white blood cell count was 6,400, and the temperature was normal. A roentgenogram (flat plate of the abdomen) revealed many distended coils of ileum, more in the center of the abdomen. A diagnosis of internal hernia (hernia into the ligament of Treitz) was made, and exploration of the abdomen was decided on.

With the patient under spinal anesthesia, a high right rectus incision was made and the abdomen explored. Most of the ileum and the ascending portion of the colon were gangrenous. The jejunum and part of the ileum had herniated into the fold of the peritoneum at the fossa of Treitz, and had become strangulated, blocking off the mesenteric artery. There was no complete obstruction. The condition was essentially ischemia with a resulting gangrene of the small intestines. The herniated part of the bowel was easily removed from its sac, but the condition of the ileum did not warrant further surgical intervention except an ileostomy and closure. Blood transfusions and all forms of supportive measures were instituted, but the patient died from toxemia in three days.

CASE 3.—J. M., white woman 29 years of age, came in for relief of a gastric disturbance of ten years' duration. She described it as a gnawing pain coming on after the ingestion of solid foods. Small amounts of food or of liquids did not disturb her. Fatty foods did not seem to make much difference. Usually the pain came on about two hours after eating.

Examination exclusive of roentgenologic study failed to reveal anything to explain the symptoms. Roentgen examination showed a normal stomach and a greatly distended duodenum. but apparently no obstruction distal to the duodenum, as the barium sulfate seemed to pass into the loops of the ileum and reached the cecum in normal time. She had been given every conceivable special diet and all the usual types of medication during the ten years, without relief of any of the symptoms.

An exploratory operation was decided on. A large, high right rectus incision was made to give ample exposure. The stomach and gallbladder regions were normal. The duodenum was greatly distended, and the second portion, although retroperitoneal, was freely movable and easily displaced. At the point of normal emergence into the peritoneal cavity (area of the ligament of Treitz) it seemed to buckle sharply upon itself and reenter the retroperitoneal space. About 12 cm. of jejunum seemed to be incorporated in this pocket. The bowel was densely bound by adhesions and extremely difficult to remove. Anterior to the pocket was the superior mesenteric artery, which was easily demonstrated owing to the emaciated condition of the patient. The small loop of bowel was released and replaced in the peritoneal cavity, and the aperture was closed with interrupted sutures. care being taken not to injure the large vessels.

The postoperative course was uneventful, and the patient has been able to eat anything she desires since.

COMMENT

The first case disproves the theory that all hernias into the *duodenojejunal* fossa are congenital or embryologic. The patient was operated on by me for acute appendicitis about three years before the occurrence of this present disability. At that time there was no sign of an internal hernia and all of the ileum that was exposed through the low pararectus incision was lying free in the peritoneal cavity. At the time of the last operation practically all of the ileum was enclosed in the hernial sac and the distal portion of the ileum was densely adherent to the posterior parietal peritoneum. This was undoubtedly a left-sided hernia into the ligament of Treitz. The neck of the sac included only the inferior mesenteric vein, which was ligated between two forceps and tied. No other large vessels were present. The entire sac was then opened from the neck of the sac downward, which allowed the intestines to

If there is any sign of gangrene or interference of any kind in the circulation of the part of the bowel involved which will increase the toxemia or endanger the patient's life if further surgical intervention is carried out, an enterostomy may be performed for temporary relief and the operation completed at a later date.

SUMMARY

There may be a variety or combination of causes for hernia into the duodenojejunal fossa. Such a hernia is extremely difficult to diagnose and should always be suspected in any case of intestinal obstruction of unknown cause. If a hernia is found when the abdomen is opened, there should be a complete survey of all the parts involved before any further surgical intervention is attempted. Hernias in this location are definitely not all embryologic, but some of them may be due to embryologic defects.

RESUMEN

Puede existir una gran variedad de causas etiologicas en la producción de hernia dentro de la fossa duodeno-yeyunal. Esta clase de hernia es altamente dificil de diagnosticar y debe sospecharse su existencia siempre que nos hallemos ante una obstrucción intestinal de causa desconocida. Si al abrir la cavidad abdominal se compruba tal hernia debe procederse a una investigación completa de todas las partes afectadas antes de intentar cualquier intervención quirúrgica. Las hernias de esta localización no son todas de tipo embriológico pero algunas de ellas pueden ser debidas a defectos embriológicos.

RÉSUMÉ

Il y a plusieurs facteurs determinant les hernies dans la fosse duodéno-jéjunale. Ces hernies sont d'un diagnostic difficile. Il faut y penser dans tous les cas d'obstruction intestinale d'un diagnostic difficile. Si après l'ouverture de l'abdomen on trouve une hernie, il faut bien inspecter toute la région avant d'agir. Les hernies de cette région ne sont pas toutes d'origine embryologique, mais il y en a qui sont dues à un défaut embryologique.

СВОД

Существует разнообразие или комбинация факторов, причиняющих грыжу fossae duodeno-jejunalis. Такую грыжу диагностировать очень трудно и она должна быть заподозрена в каждом случае кишечной обструкции от неизвестной причины. Если по открытии живота найдена грыжа, то до дальнейшего хирургического вмешательства необходимо вполне исследовать все вовлеченные части. Хотя грыжа в этом месте может быть причинена эмбриологическими дэфектами, этиология далеко не всегда эмбриологическая.

Diabetic Gangrene Involving the Sinuses

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CASES of diabetic gangrene of the nose are rare enough to be reported as medical curiosities. Search of the literature showed only 15 cases of diabetic gangrene involving the head. Involvement of the nose or sinuses was found reported in 8 cases; of the tongue, in 1; of the eyes, in 2; of the face chiefly, in 6, and of the ear, in 1. Three new cases are reported in this article.

Trautman[1] in 1910 reported a diabetic man of 52 who had necrosis of the septum and "sneezed out a piece of cartilage the size of a 5 pfennig piece."

Bowers[2] in 1924 reported a remarkable series of 3 children, all under 11 years of age. The first 2 were seen before insulin was in use, and both died. The third recovered with insulin. Patient 1, aged 4½ years, had gangrene of the septum and both left turbinates, also loss of tissue of the left side of the roof of the mouth. Patient 2, aged 10 years, had gangrene of the left lower eyelid and cheek. Patient 3, aged 10 years, had almost complete loss of the septum and much swelling of the eyelids, but with insulin she recovered.

Connell[3] reported a man of 35 who acquired an infection in the ethmoid sinuses and antrums in severe diabetes. There were a slough of the septum and a perforation of the hard palate, leaving an opening from the mouth into the right antrum. The patient recovered with insulin.

Morris[4] had a case in which the septum and a turbinate sloughed out. The patient was a woman of 58. She recovered with insulin.

Ardeshir,[5] of India, in 1926 reported a child of 8 with gangrene and loss of the right ala nasi. The patient recovered with insulin.

In reporting a fatal case of gangrene involving the left orbit and cheek and most of the hard palate, Bulger[6] stated, "Occlusion of a single large artery could not account for the distribution of the necrosis." The patient, a woman of 21, died in spite of insulin. The onset followed a stye of the left lower eyelid. He also told of a case of a physician, aged 65, who sloughed out the right half of his tongue following an infection.

Brooks[7] reported briefly on a man with gangrene of both sides of the face. The onset resembled erysipelas. The infection ended with death on the seventh day.

Brier's[8] patient was a farmer of 24 in whom a red tender area appeared just in front of the left ear. Coma developed two days later. The whole right ear became involved, but only the upper third sloughed off. The gangrene in front of the ear must have extended deeply, since the fifth and seventh nerves became paralyzed.

Wood[9] presented the case of a woman of 60 who bruised her nose in a fall. Infection set in, and coma followed. Three months later the entire nose and septum had become gangrenous and were removed. This patient was the

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only one reported who had a positive Wassermann reaction.

Millet[10] saw and reported 2 adults who had fatal gangrene of the face. In both the causative organism was Staphylococcus aureus. He stressed the resemblance to erysipelas in the early stages and suggested that a culture should help in the differential diagnosis, as hemolytic streptococci are always found in erysipelas.

Goldberg[11] gave a careful review of the literature in 1940 and reported a case of gangrene of the septum, ethmoids and turbinates. A fistula developed over the right side of the bridge of the nose. The patient recovered.

PATHOLOGY

The exciting cause of diabetic gangrene about the head seems to be infection. In almost every case the diabetes is described as uncontrolled, and in most cases the patient was near diabetic coma at the beginning of the infection. In a few cases trauma played a part.

Warren,[12] in his text "Pathology of Diabetes Mellitus," wrote: "Sepsis is the greatest foe of the poorly treated diabetic. . . . Just as arteriosclerosis is the bugbear of the diabetic who is doing well, so is infection the fear of the diabetic doing poorly. The more severe his diabetes, the more susceptible he is to infection, and once infected, his diabetes becomes far more severe." And, again, "The patient with pre-established diabetes requires two to four times as much insulin when infection intervenes."

Warren made the statement, and I have checked it with other pathologists, that he had never seen an autopsy on a patient with diabetes of more than five years' duration, regardless of age, that did not show severe arteriosclerosis. At first I was of the opinion that diabetic gangrene of the head came chiefly as a result of infectious thrombosis of a terminal artery, an artery already almost closed by diabetic arteriosclerosis with thrombosis precipitated by infection. I am now not sure that this is so. If these were the only important factors, I think that diabetic gangrene would be found more frequently in the nose and throat, since so many infections occur in these regions. Bulger[6] stated: "It may possibly have been related to an extreme edema developing in a relatively closed space similar to gangrene which is seen after subcutaneous injection of calcium chloride or strong glucose solutions." And, "Tissues devitalized by the relative absence of carbohydrate in cell metabolism may be thought of as approaching death and conceivably less able to tolerate the local high concentration of toxins."

Since in all the cases previously reported and in the 3 cases observed by myself the patient was in or near coma, it must be assumed that a high degree of acidosis and local infection are the chief factors and that probably infectious thrombosis of a terminal artery is a third factor. The fact that in 3 of the previously reported cases and in all of my 3 cases the hard palate was affected is evidence that thrombosis of one or more terminal arteries occurs.

Riven[13] described multiple gangrenous areas of the skin of the back and of the posterior part of the lower parts of the legs of a patient entering the hospital in diabetic coma. He quoted Brewer and Meleney[14] as being able to produce gangrenous ulcers in animals by injecting together hemolytic staphylococci and nonhemolytic streptococci. When the organisms were injected separately, no ulcer followed.

perature, however, had remained rather low On August 9, the patient was seen by me for the first time There was at that time a dark blue, almost black, color to the area below the left eye, which immediately suggested gangrene This area was sharply demarcated The left side of the nose was congested, but no pus was visible The left side of the hard palate was swollen and dark blue The next day a small ulcerated area on the left side of the temple was noticed The patient said that she felt fine and had no pain The diabetes seemed under control On August 11, the patient was more stuporous and unable to swallow The blood pressure remained very low, and edema of the lungs began to develop The heart tones were of poor quality The gangrenous area on the left side of the hard palate was becoming more sharply demarcated The patient died on August 12, seven days after admission Unfortunately permission for an autopsy was refused The treatment consisted of insulin and intravenously administered dextrose solution and sulfanilamide given intravenously and by mouth

CASE 3—J F, aged 69, was admitted to the Los Angeles General Hospital on Sept 13, 1943, complaining of stabbing pains on the left side of the face for a week The onset was gradual The diagnosis of diabetes had been made in 1939 He had never been given insulin For three months he had been weak, and for the last two weeks he had been dizzy and drowsy He had had one leg amputated for supposed carcinoma about twenty years before The examination on his admission showed a sharply demarcated red, swollen area under the left eye which gave the impression of erysipelas Sulfathiazole was given. There were a number of small pink spots on the roof of the mouth On September 29, an ulcer developed under the left eye, extending to the region of the lacrimal sac and the left side of the nose The posterior part of the left alveolar process had become necrotic for an area of 1½ inches (3 8 cm) Surgical consultation at this time led to a suggestion of carcinoma Biopsy specimens taken on September 29 and October 21 were reported as necrotic tissue with no malignancy On October 29, the patient was seen by me for the first time, and a diagnosis of diabetic gangrene was made The ulcer which had formed under the left eye had penetrated into the left antrum and nose, forming an opening about ¾ inch (1 9 cm) in diameter The alveolar process had lost the soft tissue entirely The bone, however, was still firmly attached This was allowed to loosen slowly without treatment, and on November 17 the entire process was lifted out with a hemostat, this left an opening up into the floor of the antrum large enough to admit two fingers There was no bleeding It was recommended that when the edges of the opening had healed a dental prosthesis be made to keep food from entering the antrum The patient's diabetes was under control, but his general condition became gradually worse, and in spite of control by insulin he died on April 6, 1944, of bronchial pneumonia Permission for autopsy was refused

SUMMARY AND CONCLUSION

Fifteen cases of diabetic gangrene involving the head were found reported in the literature Three new cases are presented. Theories as to the cause of diabetic gangrene are given It seems likely that a high degree of acidosis and local infection are the chief causes of such gangrene, and that probably infectious thrombosis of a terminal artery is a third cause The important thing that should be learned from these cases is that infection in a diabetic patient is dynamite and should be handled carefully

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RESUMEN

En la literatura se hallan descritos quince casos de gangrena diabética en *los que se encontraba afectada la* cabeza. El autor presenta tres nuevos casos de este tipo. Parece ser que las causas principales de esta clase de gangrena estan constituidas por la existencia de un alto grado de acidosis y por infección local, pudiendo considerarse como un tercer factor etiologico las trombosis infecciosas de una arteria terminal. La enseñanza primordial que se deriva del estudio de estos casos es que la infección en los pacientes diabéticos supone un hecho de suma gravedad que debe ser tratada con extremo cuidado.

RÉSUMÉ

On trouve dans la littérature 15 cas de gangrène diabétique interessant la tête. Trois nouveaux cas sont rapportés par l'auteur. Il est probable qu'un haut degré d'acidose et qu'une infection locale sont les principales causes de cette gangrène. Une trombose infectieux d'une artère terminale est une troisieme cause. La chose importante à retenir en mémoire est que l'infection chez un diabétique est de la dynamite et doit être soignée avec grand soin.

СВОД

15 случаев диабэтной гангрены головы были найдены в научной литературе. Автор представляет три новых случая. Повидимому главными причинами такой гангрены являются высокая степень ацидоза и местная инфекция, а инфекционный тромбоз конечной артерии является только последовательной третьей причиной. Важный урок, данный этими случаями, это то, что инфекция в диабэтике подобна динамиту, и с ней обращаться необходимо очень осторожно.

Uncomplicated Cecitis

Report of a Case

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PHLEGMONOUS cecitis, or typhlitis, has been adequately described in the literature by several writers Its cause still remains in doubt to a certain extent, although many plausible explanations have been advanced Cases of uncomplicated acute inflammatory cecitis, usually diagnosed on the operating table, have been reported but are relatively few The disease closely simulates all the symptoms and clinical and laboratory findings of acute appendicitis with its bizarre manifestations Inflammatory lesions of the cecum secondary to appendicitis, ileitis or colitis are frequently seen and have been reported by many clinicians But there is a paucity of material on acute inflammatory uncomplicated cecitis

In 1887, Goldschmidt reported what is believed to be the first case of phlegmon of the large intestine W J Mayo, in 1888, described cases in which typhlitis or perityphlitis gave rise to palpable tumors Billroth also called attention to this condition in 1891 Hartman in 1893, Juillard in 1897 and Gerard in 1899 contributed to the present day knowledge of the disease Since 1900, and especially in the past twenty years, the knowledge of cecitis, both primary and secondary, has been greatly enhanced Deaver did not believe that primary cecitis ever occurs Others have been of the opinion that cecitis (typhlitis) and perityphlitis do occur, though rarely, and that they are chiefly a secondary manifestation of either appendicitis or inflammation of the adnex

Cases of uncomplicated cecitis have been reported by Lazarus in 1926, Bryan in 1931, Zimmerman and Heller in 1935, Burke in 1937, Caylor in 1938 and Spivack and Busch in 1943 The last authors collected 35 cases from the literature and added 2 cases of their own But all the cases they reported showed involvement of the appendix or some other adjoining region of the intestinal tract, and the diagnosis of periappendicitis secondary to cecitis was invariably confirmed by pathologic examination

The review of the literature reveals that two types of cecitis are described the circumscribed and the diffuse The difference is merely one of degree, rather than any fundamental variation in the pathologic process, since the microscopic pictures of the two types are the same Suffice it to repeat briefly

Acute uncomplicated cecitis, or phlegmonous cecitis, is a definite disease entity, closely simulating acute appendicitis, accompanied by pain, nausea or vomiting, with or without rise in temperature and leukocytosis Clinically there will be found direct and rebound tenderness on pressure and muscle spasm in the right lower quadrant of the abdomen The symptoms and findings depend on the degree and extent of involvement of the cecum. As the cecum becomes inflamed, indurated and often fixed to the lateral abdominal wall, the condition presents all the signs of appendical abscess or localizing peritonitis. Cecitis in the early stage is an acute process and may require several hours or days to reach the stage of induration and formation of mass. It is not unusual for complete subsidence of symptoms to occur within a few hours or even days. In such cases the disappearance of the tenderness, mass or "abscess" is practically pathognomonic. This may account for the spontaneous recoveries of patients with appendical abscess occasionally mentioned and reported by surgeons. The diagnosis of acute cecitis is made accurately only at operation. The findings consist chiefly of an acute inflammatory process involving the cecum, with varying degrees of edema, redness, fibrin formation and discoloration, depending on the area affected, the amount of circulation disturbed and the type of organism and its virulence. When the pathologic process continues unabated, punctate hemorrhages may occur, with early signs of suppuration, gangrene and ulceration as the terminal phase. Some degree of localized peritonitis is inevitable regardless of the extent and severity of the process.

The ulcerative and chronic lesions of the cecum, fecal impactions, ileus, etc., do not come under this category and are obviously excluded from the discussion. However, in the differential diagnosis one has to include cancer, tuberculosis, and disease of the right side of the pelvis and ectopic pregnancy in women.

The etiology of acute cecitis is far from settled. Rankin, Bargen and Brice have described ligneous infections of the cecum as an inflammatory form of hyperplasia for which no specific cause can be found. Bryan believes that the primary cause of cecal inflammation is invasion of pyogenic organisms into the tissues of the cecum through atria in the mucosa. Kaufman suggested that the cause is fecal retention and constipation, and invasion of the cecum by direct extension. Others, especially the European clinicians Muller, Bstek and Leuchtenberger, have been inclined to give more credence to hematogenous invasion by organisms than to enterogenous extension. On the whole, however, streptococci alone or in combination with staphylococci account for the majority of cases, although colon bacilli and pneumococci are recovered occasionally from the lesions. Infections secondary to intestinal parasites and foreign bodies in the cecum also have been noted.

TREATMENT

Since this condition defies the diagnostic acumen of surgeons and clinicians, the treatment is decided on only after exploration of the abdomen. Appendectomy is performed routinely in the simple cases, although this procedure has no direct bearing on the results. In cases of severe involvement of the cecum with manifestations of obstruction, resection and anastomosis have been performed with uniformly good results. However, if the condition is duly recognized and the tissues do not exhibit evidence of impending gangrene, no drastic surgical procedure is indicated, since the cecum is capable of withstanding considerable pathologic involvement before showing signs of obstruction. Sulfonamide compounds, in the form of crystals, applied locally and also given parenterally, are indicated according to the type of bacteria and the condition and progress of the patient. Supportive treatment, administration of fluids as necessary, and slow increase of the diet are other therapeutic essentials

REPORT OF A CASE

The following clinical history seems of appropriate interest

On June 2, 1943, R P L, a man aged 33, was seen in consultation, in his quarters, because of sharp nonradiating pains in the right lower quadrant of the abdomen of about ten hours' duration steady and without much variation in severity During this time he had experienced nausea but no vomiting There was no history of constipation, diarrhea, jaundice, tarry stools or passing of mucus, or of symptoms referable to the cardiorespiratory system or the genitourinary tract Trauma was easily excluded In the past three years he had experienced several episodes of epigastric distress usually associated with overeating and ingestion of fatty foods About one month prior to the present attack roentgenograms were taken of the gallbladder but no definite pathologic change was found

Physical examination revealed a moderately obese white man, in no apparent distress but complaining of pains in the right lower quadrant of the abdomen in an area approximately the size of the palm of his hand The head, chest, back and extremities showed no abnormalities The blood pressure was 118 systolic and 76 diastolic The temperature, pulse rate and respiratory rate were normal The abdomen appeared full, with the pannus adiposus somewhat thick it was slightly tympanitic above the umbilicus There were definite tenderness and muscular spasm with rebound tenderness on pressure over the entire right lower quadrant, extending to the iliac crest No mass was palpated Examination of the rest of the abdomen failed to reveal anything abnormal

A diagnosis of acute appendicitis was concurred in and immediate operation was advised The patient refused admission to the hospital until the following morning At this time the symptoms had not changed but the tenderness seemed more acute The temperature, pulse rate and respiratory rate were normal The red blood cell count was 5,060,000, the hemoglobin content 90 per cent and the white blood cell count 7,700, with 69 per cent polymorphonuclear cells, 29 per cent lymphocytes, 1 per cent monocytes and 1 per cent eosinophils The sedimentation rate was 28

The patient was operated on under spinal anesthesia The abdomen was entered through a lower right rectus incision The peritoneal cavity contained no free fluid, the omentum and small intestines appeared normal but showed vigorous peristalsis The appendix was found floating in the right iliac fossa about 8 cm in length, presenting no evidence of inflammation, edema, constriction or kinking The cecum was distended, and its lateral aspect was moderately adherent Many easily friable adhesions were freed, and the cecum was rendered freely movable, this revealed an area of inflammation the extent of a semicupped hand The adherent portion was thickened and covered with fibrin, the mesial half of the circumference showed only very slight hyperemia The lumen contained fecal masses of varying sizes and consistencies The regional lymph nodes were not enlarged Posterior to the cecum a dark red mass about 2 5 cm in diameter was discovered This was easily removed by finger dissection and grossly was characteristic of gangrenous fatty tissue A direct smear was taken of the fibrinous exudate A routine appendectomy was then performed, the stump was cauterized but not inverted Bleeding was controlled by ligatures Five grams of sulfathiazole crystals was sprinkled over the entire cecum and the adjacent lateral abdominal wall The wound was closed in layers without drainage The postoperative diagnosis was acute cecitis, thrombosed mesentery, and normal appendix

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The pathologic report was as follows:

Gross Examination: The vermiform appendix was 6 cm. long and 6 mm. in diameter. Also submitted was a dark red, firm, lobulated, ovoid mass 25 mm. in length.

Microscopic Study: The appendical lumen was small and contained debris. Its wall was thick, and the epithelium was intact. The mucosa was thick and lymphatic tissue scant. The submucosa was hyaloid. The muscularis, *subserosa and serosa were essentially normal.* The ovoid mass consisted of lobules of adult adipose tissue. Between the cells was hemorrhage. On the serosal covering was fibrin infiltrated with leukocytes. The blood vessels contained whole blood.

The diagnosis was: chronic residual retrograde changes of the appendix; hemorrhage and surrounding acute, suppurative inflammatory reaction of the mesenteric fat (consistent with the clinical diagnosis of "thrombosed mesentery").

The Wassermann and Kahn reactions were negative. The smear showed a few gram-positive cocci, not characteristic of either staphylococci or streptococci. The cultured specimen revealed alpha streptococci.

COMMENT

This case was one of an early stage of acute uncomplicated cecitis, without involvement of the vermiform appendix. The condition was probably due to bacterial invasion. The thrombosed mesentery would seem to indicate that this started as a blood-borne infection. The inflammatory process extended too far up the cecum to be the result of circulatory interference of a small distal mesenteric vessel. However, it is not easy to discount pressure necrosis or abrasion from fecal retention in the cecum as the initial lesion, followed by invasion of bacteria through the traumatized mucosa and muscular wall. If this assumption is accepted, it is obvious that the mass of gangrenous fatty tissue was the result of weight pressure from the loaded cecum plus an extending infection from the posterior lateral wall causing a disturbance in circulation. One cannot seriously consider an infected venous return as the cause of the process because of the limitation of the pathologic process to a circumscribed area.

SUMMARY AND CONCLUSION

Acute uncomplicated cecitis, or typhlitis, is a distinct disease entity indistinguishable from appendicitis preoperatively. The condition is not rare.

When the appendix is involved, this condition is secondary to the cecitis and the extension is from the base distally rather than from the appendix down to the cecum as in the progressive stages of appendicitis.

The phantom appendical abscess is probably healed acute cecitis, either primary or secondary.

On exploration of the abdomen, routine appendectomy is usually done and carries no additional risk. Drastic resection of the cecum is seldom indicated unless there is serious obstruction, a gangrenous bowel or both.

A case of uncomplicated cecitis which revealed no acute involvement of the vermiform appendix is presented.

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RESUMEN

La tiflitis aguda incomplicada constituye una indudable entidad clínica cuyo diagnóstico diferencial con la apendicitis es imposible de establecer antes de la intervención quirúrgica. Cuando el apéndice se halla afectado, la apendicitis es entonces un estado secundario a la tiflitis y las modificaciones apendiculares arrancan distalmente a partir de la base en lugar de hacerlo desde la punta hacia el ciego como ocurre en los estados progresivos de la apendicitis simple.

El absceso apèndicular fantasma es probablemente una tiflitis aguda curada, ya sea primaria o secundaria.

En la exploración abdominal se lleva a cabo generalmente, como método de rutina, la resección del apendice y ello se hace sin riesgos adicionales. La resección extrama del ciego rara vez está indicada a menos que exista una obstrucción grave, gangrena intestinal o ambos estados.

El autor presenta en este trabajo un caso de tiflitis incomplicada en el que la operación reveló que el apéndice vermiforme no presentaba afección aguda.

RÉSUMÉ

Cécite, ou typhlite, est une maladie qu'il est difficile de differencier préopérativement de l'appendicite. Cette maladie n'est pas rare. Quand l'appendice est intéressé et cette condition est consécutive à la cécite, l'extension procède de la base vers la pointe plus souvent que de l'appendice au caecum. L'abcès fantôme appendicéal est probablement sécondaire à une cécite, primaire ou secondaire. Après ouverture de l'abdomen on fera une appendicectomie. Cela n'entraine aucun risque additionnel. Une résection drastique de caecum n'est indiquée que rarement. Cette résection sera faite dans les cas d'obstruction grave, dans les cas de gangrène intestinale, ou quand ces deux lésions son associées. L'auteur présente un cas de cécite non compliquée qui ne présentait aucune lésion aiguë de l'appendice.

СВОД

Острый неосложненный цекит или тифлит является определенной отдельной болезнью, которую невозможно преоперативно отличить от аппендецита. Болезнь эта довольно частая.

Воспаление чревовидного отростка в таких случаях является вторичным, и расспространение воспалительного процесса идет дистально от основы, а не от отростка к слепой кишке, как в прогрессивных стажах аппендецита. Фатомный аппендецитный нарыв является, вероятно, выздоровшим острым тифлитом, первичным или вторичным.

При исследовании полости живота, обыкновенно, производится, без добавочного риска, аппендектомия. За исключением серьезной кишечной обструкции, гангрены кишечника или обоих, редко существует показание на решительную резекцию слепой кишки.

Представлен случай простого тифлита, не осложненного острым аппендецитом.

Relation of Gastric Acidity to Recurrent Ulcers After Partial Gastrectomy

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THE cause of peptic ulcer is unknown. The most widely held theory today is that it is a psychosomatic disease. While this idea that peptic ulcer is due primarily to a neurosis may be correct, the mechanism for its actual production is probably the action of free hydrochloric acid plus pepsin on a susceptible mucosa.

During the past twenty-five years, the gastroenterologic group at the Mount Sinai Hospital has studied this so-called "acid" factor.[1] In this rather long period we have carefully utilized the following tests and criteria: (1) three hour fractional test meals, (2) nocturnal secretion curves, (3) psychic (nervous) phase of gastric secretion (orange test meal, insulin), (4) chemical phase (bouillon through the tube or/and histamine). Many patients have had such tests repeatedly before and after partial gastrectomy over a period of years (even ten to fifteen years). I am presenting here a brief summary of our studies in this field.

PREOPERATIVE STUDIES

Our preoperative studies of patients with peptic ulcer have revealed the following facts: (1) Eighty per cent of patients with duodenal ulcer have a clinical hyperchlorhydria and hypersecretion after test meals and during the night; (2) most of the patients with gastric ulcer at the angle have a low or normal gastric acidity (there may be a nocturnal increase); (3) as evidenced by the orange and possibly the insulin test, the nervous, or vagal, phase of gastric secretion is high in the presence of duodenal ulcer; (4) the nervous phase is low or normal with gastric ulcer ("angle" or "corporic" ulcer); (5) the chemical phase is normal with duodenal ulcer and low with gastric ulcer; (6) atropine in large doses diminishes the free acidity somewhat in patients with peptic ulcer, but does not inhibit it completely in the intact stomach.

THE RELATION OF THE GASTRIC ACIDITY TO THE SURGICAL THERAPY

The chief aims of the surgical therapy of peptic ulcer are the following: (1) to remove the ulcer, (2) to obtain an optimum motility and (3) to induce a harmless achlorhydria. The last goal, viz. the induction of an achlorhydria, is the sine qua non of the surgical therapy of peptic ulcer, since this is the ideal state for the prevention of the postoperative, recurrent ulcer. Our experience in the past twenty-five years has convinced us (1) that healing of peptic ulcer is most rapid and complete when a chronic, harmless achlorhydria is instituted (best accomplished medically by the milk–sodium bicarbonate or aluminum gel drip therapy)[4] and (2) that the best guarantee against a recurrent ulcer after partial gastrectomy is an achlor-

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hydria (whether a true or a neutralization one does not seem to matter). Such a postoperative achlorhydria will not prevent gastritis, erosions, and certain nervous and intestinal postoperative clinical syndromes, but in our experience a true ulcus jejuni pepticum does not occur in the presence of a chronic postoperative achlorhydria.

The achlorhydria occurring after the Polya-Hoffmeister type of partial gastrectomy is due to the following factors: (1) removal of most of the chemical (hormonal) phase of gastric secretion by antrumectomy (including the pylorus), (2) rapid emptying (hence less stimulation), (3) maximum neutralization (by jejunal regurgitation) and (4) a postoperative gastritis (from mechanical trauma and the irritating reflux) which tends to lessen the secretion. This postoperative achlorhydria has not led to any serious anemia in our cases (Rosenthal).

POSTOPERATIVE STUDIES IN GASTRIC ACIDITY

Using the various tests already mentioned, we have found that the following conditions prevail after partial gastrectomy:

1. Practically 100 per cent of the patients with gastric ulcer (at the angle) have an achlorhydria.
2. Recurrent ulcer has not been seen in this group.
3. The achlorhydria is a true one (neutral red is not excreted nor is acid after histamine) and is presumably due to a gastritis.
4. Fifty-five per cent of the patients with duodenal (or "juxtapyloric") ulcer exhibit an achlorhydria, and 45 per cent have persistent free hydrochloric acid.
5. Again, the recurrent ulcer is not seen in the group with achlorhydria.
6. However, recurrent jejunal ulcer is seen in a fair number of cases in the group with retained postoperative free acidity. The number of recurrences is still only one-third as many as after gastroenterostomy.

This striking and impressive fact, that the recurrent ulcer is seen only in the group with retained free acidity after the operation, leads obviously to a most important question. What is the explanation for the postoperative persistence of free hydrochloric acid in 45 per cent of patients with duodenal ulcer? We set ourselves to study this problem intensively in the hope of finding a therapeutic lead.

THE PERSISTENCE OF FREE HYDROCHLORIC ACID AFTER PARTIAL GASTRECTOMY FOR DUODENAL ULCER

Our studies on this phase of the problem revealed the following information:

This postoperative free acidity is due to vagus nerve influences. We were convinced of this because (1) it is completely abolished by atropine, (2) it is easily stimulated by sham feeding, (3) as already pointed out, the preoperative hypersecretion is also due to an excessive nervous phase of secretion, and (4) the chemical phase has been almost completely removed by the operative procedure (antrumectomy).

VAGOTOMY PLUS PARTIAL GASTRECTOMY IN RELATION TO FREE ACIDITY

Since persistence of the free acid in 45 per cent of patients with duodenal ulcer after partial gastrectomy is apparently due to the vagus nerve, the idea of vagotomy arose logically (A. A. Berg, E. Klein, A. Winkelstein).[5, 6, 7] Subphrenic anterior vagotomy was decided on rather than complete vagotomy, since it was feared that the complete vagotomy m[illegible]) a severe postoperative atony, (2) dysfunction in other intra-abdominal organs or (3) fatalities similar to those encountered after total vagotomy in dogs (E. Klein). The actual surgical procedure of partial vagotomy is indeed a simple one and adds but a few minutes to the operative time. The lesser curvature is pulled taut, and three to five palpable and visible vagus nerve filaments are cut at the cardia with a long scalpel. A few years ago, Dr. A. A. Berg and I presented a series of 34 cases in which Dr. Berg had carried out this procedure. Since we had noted that our recurrences after partial gastrectomy were in the group of duodenal ulcers with a very high preoperative acidity, patients with a very high preoperative acidity were selected for the procedure. We found that the addition of the subphrenic vagotomy to the partial gastrectomy led to a postoperative achlorhydria in 26 cases (76 per cent), that the procedure was harmless and that a five and ten year follow-up showed neither a return of the acid nor a recurrent ulcer. We therefore advocated this simple logical procedure as a valuable addition to the surgical treatment for ulcer. Perhaps, we argued, we might obtain the ideal state of a postoperative achlorhydria without recurrences in almost all patients with ulcer subjected to partial gastrectomy. We earnestly hope that this procedure will soon be tried out in other surgical clinics.

Our explanation for the achlorhydria in most of these cases and the greatly reduced acidity in the others is as follows: A combination of the somewhat reduced vagal secretion plus antrumectomy, plus jejunal regurgitation, plus postoperative gastritis leads to the achlorhydria and diminished secretion.

There is a group of patients with ulcer who despite partial gastrectomy and even repeated resections continue to have recurrent jejunal ulceration. Their lesions have been called the "surgically incurable peptic ulcers." In 3 such patients a second partial gastrectomy has proved curative when the vagotomy was added.

I have even suggested that some patients who have milder uncomplicated duodenal ulcers which are refractory to medical therapy and who have a nervous hypersecretion be treated by subphrenic vagotomy combined with a gastroenterostomy.[8] Five patients have undergone this procedure and have done well, but a larger series is of course desirable before conclusions are permissible.

CONCLUSIONS

The "acid" factor is of central importance in the problem of therapy for ulcer. Duodenal ulcer is associated with high preoperative acidity, whereas gastric ulcer is not. The nervous phase of gastric secretion is high in the presence of duodenal ulcer.

The chief object of surgical therapy is the prevention of postoperative recurrences. Postoperative achlorhydria guarantees against recurrent ulcer. Partial gastrectomy for gastric ulcer at the incisura angularis leads to achlorhydria without postoperative recurrences. Partial gastrectomy for duodenal ulcer leads to achlorhydria and cure in 55 per cent of cases.

Free acid persists postoperatively in 45 per cent of patients with duodenal ulcer. In this group recurrent ulcer is not uncommon. Since the cause of this persistent free hydrochloric acid is the vagus nerve, subphrenic anterior vagotomy plus partial gastrectomy is advocated. It has been carried out successfully in a fair series of cases. It is advised as a simple routine procedure in partial gastrectomies for duodenal ulcers with a high preoperative free gastric acidity.

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CONCLUSIONES

El factor "ácido" es de capital importancia en el problema de la terapéutica antiulcerosa. La úlcera duodenal va asociada a una alta acidez postoperatoria, en tanto que la úlcera gástrica está libre de la dicha asociación. La fase nerviosa de la secreción gástrica alcanza un alto nivel en presencia de úlcera duodenal.

El objeto principal de la terapéutica quirúrgica estriba en prevenir las recidivas postoperatorias. Hau que tener en cuenta que la existencia de aclorhidria después de la operación garantiza contra la recurrencia de la lesión ulcerosa. La gastrectomía parcial a la altura de la cisura angular conduce a la provocación de aclorhidria sin recurrencias postoperatorias en los casos de úlcera gástrica. Cuando se trata de úlceras duodenales la resección parcial provoca aclorhidria y cura en el 55 por ciento de los casos.

En el 45 por ciento de los pacientes con úlcera duodenal persiste después de la operación el acido clorhídrico libre y en estos casos no es infrecuente la recurrencia de la lesión ulcerosa. Teniendo en cuenta que la causa de la persistencia de este acido clorhídrico libre reside en el nervio vago, se ha recomendado la vagotonía subfrénica anterior ademas de la gastrectomía parcial. Este método se ha llevado a cabo con éxito en una series bastante numerosa de casos. El procedimiento se aconseja como un método de rutina en la gastrectomía parcial en las úlceras duodenales con una alta cifra de acidez libre después de la intervención quirúrgica.

RÉSUMÉ

Dans le traitement de l'ulcère peptique le facteur "acide" est d'une importance primordiale. L'ulcère duodénal est accompagné d'une haute acidité préopérative. Cela n'est pas le cas dans l'ulcère gastrique. La phase nerveuse de la sécrétion gastrique est *haute en présence de l'ulcère duodénal.* Le but important dans la thérapie chirurgicale est d'éliminer les récidives postopératives. L'achlorhydrie postopérative garantit contre les récidives. Une gastrectomie partielle à l'incisura angularis nous protège contre toute récidive. La gastrectomie partielle pour ulcère duodénal procure l'achlorhydrie et est suivie de guérison dans 55 pour cent des cas. L'acide libre persiste après l'opération dans 45 pour cent des malades affligés d'ulcère duodénal. La persistance de cette hyperacidité est due au nerf pneumogastrique. L'auteur préconise la vagotomie antérieure sousphrénique. L'opération a donne des resultats satisfaisants dans une série de cas. L'opération est indiquée dans les cas d'ulcère duodénal présentant une haute acidité préc [illegible] l'a[illegible] ciera à une gast[illegible]

ЗАКЛЮЧЕНИЯ

"Кислотный" фактор занимает центральное место в проблеме терапии язвы. При дуоденальной язве преоперативная кислотность, в противоположность желудоч-язве, очень высока. Нервная продукция желудочной секреции очень повышена при дуоденальной язве.

Главной целью хирургической терапии является предотвращение рецедивов. Послеоперативная ахлоргидрия дает гарантию против рецедивной язвы. При желудочной язве частичная гастректомия у incisura angularis ведет к ахлоргидрии без послеоперативных рецедивов. Частичная гастректомия при дуоденальной язве дает те же результаты, но только в 55%.

В виду того, что свободная кислотность продолжается в 45% больных, с дуоденальной язвой, то рецедивы язвы очень часты в этой группе. Так как продолжение производства этой свободной соляной кислоты обусловлено деятельностью блуждающего нерва, то рекомендуется под-диафрагматическая передняя ваготомия плюс частичная гастротомия. Эта операция была произедена в довольно большом количестве случаев и она рекомендуется, как рутинная мера при частичных гастректомиях для дуоденальных язв с высокой преоперативной свободной желудочной кислотностью.

Surgery of the Common Bile Duct

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THE main indications for surgical operations on the common bile duct may be grouped into two categories (1) intrinsic and extrinsic diseases causing obstruction, (2) injuries to the common duct in the course of the operation of cholecystectomy. The former causes are not preventable, while the latter are. The affections of the common duct commonly met with are stones, tumors of the common duct, usually malignant, and malignant and benign diseases of the pancreas and papilla of Vater which encroach upon the common duct, causing obstruction. Stones in the common duct may be due to their passage through the cystic duct. They may also originate in the biliary radicles of the liver and in the common duct itself. It is a well known fact that 20 per cent of the patients who are operated on for cholelithiasis have stones in the common duct. Some surgeons give a higher percentage. A malignant tumor at the papilla of Vater may be a small solitary growth or a cauliflower mass in the common duct. This can be illustrated by a patient, J. S., aged 43. The history states that she had had jaundice for one year prior to admission to the hospital. During this interval the intensity of the jaundice would vary. This was explained at the time of operation by the presence of a cauliflower mass at the papilla of Vater. It acted like a ball valve stone. The technic and results of operation will be reported in full in another paper. When a hard solitary growth occurs at the papilla of Vater, jaundice is more intense. It is practically impossible to differentiate between a tumor of the pancreas and one of the papilla of Vater.

Obstruction of the common duct from a lesion in the pancreas may be twofold. Chronic pancreatitis, for instance, may give rise to obstructive symptoms comparable to those of obstruction due to cancer of the pancreas. The paramount sign of complete obstruction of the common duct is jaundice. The gradations of the intensity of jaundice depend on *the character of the obstruction*. Intermittent jaundice may be due to what is known as a ball valve stone or even a tumor of the cauliflower variety at the papilla of Vater. Chronic pancreatitis may give rise to exacerbations of jaundice, while cancer of the pancreas causes a permanent jaundice until relieved by means of operation. It has been my experience that a golden yellow jaundice is always fatal. This type of discoloration may be due to acute yellow atrophy of the liver or to an obstructive lesion, usually malignant, of the bile passageways. This type of jaundice occurred in a woman, T. H., aged 62. The history states that she had not been well since June 1944 but that jaundice did not appear until about three weeks before her admission to the Jewish Hospital, which was on March 20, 1945. She complained of pain in the right hypo

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Read at a joint meeting of the Tennessee Guild of the International College of Surgeons and the Knox County Medical Society at Knoxville, Tenn., June 8 1945.

* Services of the Jewish Hospital and Mount Sinai Hospital.

chondriac region with referred pain to the right shoulder. The jaundice was of an intense golden yellow color. I gave a guarded prognosis and stated that operation would not be helpful in this particular case on account of the character of the color of the jaundice. She died about a week after I saw her in consultation. The autopsy revealed carcinoma of the hepatic bile ducts.

ACCIDENTS TO THE COMMON DUCT

Destruction or bisection of the common duct occurs at the time the operation of cholecysectomy is performed. Judging from the dearth of cases reported, few find their description in medical literature. It must be admitted, however, that every surgeon of large experience has met with this accident. It is also pertinent that with the knowledge of the normal anatomy and of the anomalies in this area, fewer accidents of this sort will occur. The anomaly in which the common and cystic ducts lie parallel to one another is probably the one in which the common duct may be injured. Again, when the cystic duct is short and close to the common duct, the latter may be injured. Another type of danger to the common duct may be due to the fact that the cystic duct is inserted too close to the hepatic duct or the duodenum. These are only a few of the anomalies. There are other ways in which the common duct may be injured. One of the most common is grasping the common duct in the presence of a bloody field of operation. This may be due to a slipping of the ligature around the cystic artery or inefficient clamping of the blood vessel.

After being conversant with the anatomy around the foramen of Winslow it is necessary to know the steps of the "open" operation of cholecystectomy. As has been shown in previous communications on this subject, the first consideration in the operation is to obtain an absolutely clear field of the structures to be operated on. This can be accomplished by means of the proper application of the large sponge or pads held by deep retractors of the Deaver model. After the field has been obtained, the free edge of the gastrohepatic omentum are incised and teased apart with blunt-pointed curved scissors. The hepatic, cystic and common ducts are immediately brought to the forefront. The cystic duct is clamped in two places and cut in between. The gallbladder is teased forward with a piece of gauze wrapped around the index finger when the cystic artery can be seen. This is clamped and divided. The gallbladder is gradually removed after the peritoneum has been cut adjacent to the gallbladder and liver. A suture is then placed where the gallbladder originally was removed. Drainage is not done if the field is perfectly dry. With the operation of cholecystectomy performed in this manner, the injuries to the common duct should be reduced to a minimum.

OPERATIONS FOR RELIEF OF OBSTRUCTION OF THE COMMON DUCT DUE TO DISEASE

In the presence of jaundice it is often impossible to give the exact location of the obstruction of the common duct until the patient is operated on. Usually the obstruction is due to stones in the common duct or to a growth at the ampulla of Vater or at the head of the pancreas. The operation for the relief of obstruction of the common duct due to stones is simple if the field of operation is visualized as has been described. Under the technic of cholecystectomy, before the common duct is opened it must be tested for the presence of bile by means of a syringe. Many errors have occurred as a result of surgeons not taking this precaution, because inadvertently the portal vein has been incised. This is a serious complication, which usually ends in death of the patient. After we have been convinced that we are dealing with the common duct, it is incised and the stones are removed. The common duct is then irrigated with salt solution, and any mud or small particles of stone may be washed out in this manner. A lead probe is used to determine whether the ampulla of Vater is patulous. A T tube is inserted and allowed to remain until after a cholangiography has determined the patulousness of the common duct and the duodenum. The T tube may be removed the following day. After its removal bile may stop flowing immediately or there may be some exacerbation of bile for a day or two only. In those cases in which a stone has been left at the ampulla of Vater, it may be necessary to perform a duodenotomy and remove the stone in a retrograde fashion. In 2 cases a cholangiography showed that stones were left at the ampulla of Vater. With the T tube still in position, irrigations of ether and olive oil were used every day for about a month with success. No additional operation has been required on either patient since the initial operation in 1942.

THE WHIPPLE OPERATION AND ITS MODIFICATIONS

A great change in the technic has taken place since Whipple and his coworkers in 1935 announced their radical operation for cancer at the papilla of Vater and the head of the pancreas. Formerly the various anastomoses of the gallbladder and common duct to the hollow viscera were the popular operations performed. These operations only relieved the jaundice, and did not remove the offending lesion. The Whipple operation has been modified by Hunt, Orr, Horsley, Brunschwig, myself and others. The operation as performed by Whipple is fundamentally the same as that advocated by other surgeons with the exception of a few minor changes in technic. Whipple, Brunschwig and Orr are advocates of the operation being performed in two stages.* Hunt, Trimble and I perform the one stage operation. The essential part of the operation consists of removal of the growth with the first and second portions of the duodenum and a posterior gastrojejunostomy in all cases. The differences in operations occur according to whether the anastomosis of the gallbladder or common duct should be made to the stomach or jejunum. The common duct may be anastomosed to the stomach or the jejunum with elimination of the gallbladder as an anastomosing structure. I prefer the use of the common duct in the anastomosis to the hollow viscera, because the flow of bile is direct instead of going through a circuitous route through the cystic duct. The danger of using the gallbladder with the ligation of the common duct is that often the ligature around the common duct is loosened, as a result of which free bile flows into the peritoneal cavity and death of the patient follows. The technic for the anastomosis of the common duct to the hollow viscera is simple. The common duct is always dilated in these obstructive cases, which simplifies the technic of end to side anastomosis without the use of a rubber tube. An anastomosis without the intervention of a foreign body is always an ideal one to perform. There are in-

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*In a recent article (*Ann. Surg.* 121·847 [June] 1945) Whipple has stated that he now performs the operation in one stage.

stances, however, in which this technic cannot be carried out.

CONCLUSIONS

The indications for surgical operations on the bile duct are as follows: (1) intrinsic and extrinsic diseases causing obstruction; (2) injuries to the common duct in the course of the operation of cholecystectomy.

Some stress is laid on the intensity of jaundice in relation to the prognosis.

The occurrence of accidents to the common duct can be minimized with a thorough knowledge of the anatomy around the foramen of Winslow. The open operation will also help to prevent such accidents.

The operations for obstruction of the common duct due to intrinsic and to extrinsic diseases are briefly reviewed.

RESUMEN

Las indicaciones para la intervención quirúrgica del conducto biliar son las siguientes: (1) afecciones intrínsecas o extrínsecas que produzcan obstrucción; (2) lesiones sobre el colédoco provocadas en el curso de una operación de colecistectomía.

Se hace realzar la importancia de la intensidad de la ictericia en relación con el pronóstico.

La frecuencia de accidentes sobre el colédoco puede disminuirse mediante un perfecto conocimiento de la anatomía de la vecindad del orificio de Winslow. La operación de tipo "abierto" previene asimismo la ocurrencia de accidentes.

El autor sumariza de modo breve las operaciones por obstrucción del colédoco debida a afecciones intrínsecas o extrínsecas.

СВОД

Показаниями на хирургию желчного пузыря являются: 1. внутренние и наружные болезни, причиняющие обструкцию; 2. повреждение общего протока при операциях желчного пузыря.

Интенсивность желтухи подчеркивается, как важный прогностический знак. Частота повреждения общего протока может быть очень понижена доскональным знанием анатомии вокруг foramen Winslowii, и предотвращено широким открытием оперативного поля.

Автор дает краткое обозрение операций для обструкции общего протока, причиненной внутренними и наружными болезнями.

NEW BOOKS

J. F Brailsford's book on **The Radiology of Bones and Joints**[1] is not a novelty in the market of medical literature In fact, during the past ten years it has become one of the most popular reference works among roentgenologists and bone surgeons The contents of the first edition, published in 1934 exceeded the compass implied by its title, owing to the careful consideration of clinical and pathologic aspects of the diseases of bones and joints In this third edition the author has rounded the presentation of normal, developmental and pathologic conditions of the skeleton by thoroughly pursuing and surveying many of his cases throughout the years

The difficult classifying of the vast material has been successfully handled by a division of the book into two parts The first twenty one chapters, constituting about three quarters of the volume, deal systematically with the separate sections of the skeleton In the second part the generalized abnormalities and diseases of the bones and joints are discussed Unavoidable repetitions have been reduced to a minimum It is one of the great merits of the book that it offers to the physician an opportunity to avail himself readily of summary information on any subject in the field of radiology of bones and joints This has been achieved by a very complete index which the author has personally arranged with painstaking care References to more detailed studies of any special problem are found in the text and in the judiciously selected bibliography, which considers the literature up to the year of 1943

The steadily growing popularity of the book induces the prediction that this third edition will be succeeded by a fourth one in the not too distant future Then, with the removal of technical difficulties imposed on the publisher by war conditions we hope to see the volume again in the peacetime format which its valuable contents deserves

Rufus A Lyman's American Pharmacy[2] is the result of a collective endeavor by a group of authorities in the field of pharmacy and related sciences to advance pharmaceutic education and practice It does justice to that endeavor and gives the student and the practitioner of pharmacy a tool by which he may be helped to advance his knowledge and improve his practice

This book is unique in pharmaceutic literature, for it is a sequence of scientific studies, each written by a specialist on the subject and each written in accordance with the ultimate purpose of the book as a whole, which is edited by an authority in pharmaceutic education Thus each chapter possesses the quality of specialization, and the book as a whole presents an admirable unity of purpose

The book is conveniently divided into three parts Part I, composed of ten chapters, presents a comprehensive study of the fundamental principles and processes in producing, evaluating and preserving medicinals The reader will find therein a clear and complete exposition of the laws of physics chemistry and mathematics as they pertain to pharmacy, and their application to it The style is effortless and clear, and each subject is thoroughly treated yet presented in such a way as to make it readily available for occasional reference In its entirety it gives the reader a scientific approach to practical problems in pharmacy

Part II covers the field of pharmaceutic preparations It is divided into seventeen chapters Emphasis is placed on the processes of manufacturing and on the medicinal properties of each product It is presented in the form of monographs, each lucid in its brevity, thoroughness and style

Part III is composed of three chapters, dealing with medicinals of biologic origin This is the smallest part of the book and the most limited in its purpose The authors have very prop erly not attempted to present this phase of pharmacy as a fully defined science. It has been limited by necessity, but this part does give the reader a clear and comprehensive understanding of medicinals of biologic origin and a background for the understanding of the continuous advancements being made in this science.

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[1] The Radiology of Bones and Joints James F Brailsford Third Edition, with 404 illustrations J & A Churchill, Ltd, London, 1944

[2] American Pharmacy Rufus A Lyman, M D 197 Illustrations Price $8 00 J B Lippincott, Philadelphia, 1945

The illustrations and format of the book deserve special complimentary mention. It is a book for everyone interested in pharmacy as a science or as a practice.

Men Under Stress, by Grinker and Spiegel,[3] is an outstanding book—an instructive, inspiring and, above all, an honest book. It should be read by every physician and every man and woman interested in the psychologic and psychiatric problems presented by soldiers in combat and shown by all human beings living under stress, either in war or in peace. The failures of adaptation described by the authors on the basis of several thousand cases observed in active overseas theaters of operations and in hospitals for rehabilitation of returnees mirror Everyman's neurotic compromises with reality. Therefore, the authors do not agree with Goldstein and others who consider "combat fatigue" not as a neurosis but as a temporary uneconomical reaction to catastrophic situations. They feel that the war neuroses show basically the same characteristics as do other psychoneuroses. The patients show the well known phenomena of regression, repression, isolation and dissociation, and the typical mechanisms of projection, introjection and displacement, leading to inhibition, overcompensation and sublimation. Passive dependent trends, anxiety and depressive states, guilt feelings and hostile reactions were seen, as well as psychotic-like states and psychosomatic disorders. Although practically everybody has his breaking point, a neurotic predisposition and conflicts of the past promote the production of a neurotic reaction under strain. Histories of broken homes, social insecurity, parental alcoholism and divorce are distressingly frequent among the patients. With regard to morale and motivation for combat, the common American soldier is put in a pecularly disadvantageous position compared with his enemies and most of his Allies because of the absence of military tradition and the lack of a strong political and national conviction concerning the necessity of going to war, the usual attitude being only one of passive acceptance of his country's part in the world conflict. Moreover, certain features in the American culture seem calculated to delay the process of maturation and independence in boys. An increasing feminine dominance in family life and education, overprotection and spoiling, as well as deprivation and frustration, prevent maturity. The positive morale-building factors lie mainly in the soldier's loyalty to his combat group, in his emotional ties to his comrades and leaders, and in his sporting spirit.

There is good reason to fear that many returning soldiers whose conflicts have never been successfully resolved, who remain angry or depressed, frustrated and helpless, may be attracted by some strong group, like one sponsoring a fascist movement, which exploits his loneliness and longing for comradeship and leadership, and which knows how to flatter him and to turn his resentment and aggression coming from personal frustration or guilt feeling toward a supposed enemy or a minority group. To counteract this, more than individual psychiatric treatment is necessary: a comprehensive plan of the community for medical economic and social care, and a social therapy based on an understanding of dynamic social psychology, which intelligently and vigorously tries to gratify needed dependency, to furnish satisfying outlets, to direct aggression into constructive channels and to restore self confidence and faith.

The second edition, thoroughly revised, of **Hardy's Synopsis of the Diagnosis of the Surgical Diseases of the Abdomen**[4] is a handy little volume, replete with useful material, designed for the general practitioner as well as for the surgeon It is a refresher medium which will serve its purpose well

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[3] Men Under Stress. Roy R. Grinker and John P. Spiegel. Pp. 484. The Blakiston Company, Philadelphia, Pa., 1945.

[4] Synopsis of the Diagnosis of the Surgical Diseases of the Abdomen. John A. Hardy, B.Sc., M.D., F.A.C.S. Second edition. 528 pp., with 100 illustrations. The C. V. Mosby Company, St. Louis, 1945. Price $5.00.

It has been so compiled as to arrange concisely every proved means of diagnosis of the surgical diseases of the abdomen with special emphasis on the recognition and diagnostic application of signs and symptoms of disease that may be seen or felt or heard rather than on laboratory diagnosis alone

While reading Dr Hardy's book this reviewer bore in mind the saying of Dr Nicholas Senn that "No one can be a good surgeon who is not first of all a good physician" and he highly recommends this compact synopsis to all those practicing medicine in any of its branches It is not an exhaustive work on the subject but it contains the essentials

When a surgeon writes a book on medicine for the laity, especially for the feminine laity one is interested but perhaps a little skeptical of its value and effect In **A Doctor's Advice to Women, Richard A Leonardo**[5] has managed a difficult task in a clear, simple manner which attains its objective

An amazing range of topics is covered, including the care of the skin and hair, the general composition of lipsticks, the proper diet and also the physiologic functions of the bodies of women and the cardinal signs of dangers to health which should send them quickly to their physicians The book contains nothing to alarm a sensitive person and gives a great deal of sound factual information The style is unforced and readable A minor statement or two is made in a dogmatic way even though the known information about the subject might not warrant a categorical statement, however in view of the nature of the book, it may have seemed best to the author to present all his advice as definitely as possible Certainly there is nothing but commendation to be accorded the volume, for readability, good sense and value to women in all strata of life It is perhaps a little too comprehensive to be given to adolescent girls, but it would be invaluable to the mothers of such girls

Those who are fortunate enough to know **Mr Arnold K Henry** would expect his latest book to be the work of an artist of a profound observer and of a learned man In **Extensile Exposure, applied to Limb Surgery,**[6] they will not be disappointed, for in this work are exemplified the three qualities of this splendid confrère

The raison d'être for the book is well explained in the preface, which states that "Exposure that will vie effectively with the 'great arsenal of chance' must be a match for every shift, and therefore have a range *extensile*, like the tongue of the chameleon, to reach where it requires This book accordingly, seeks to enlarge the scope of certain set and parcelled methods of approach Bone carries our anatomy and forms its central fact and bone wherever possible is made the core of each exposure Even the few confined to nerves and vessels bring in a glimpse of skeleton and some of these (though well rehearsed in other books and easily accessible) are borrowed here again "

Aside from its high scientific value this book is also a masterpiece of literary style It is delightful reading, pregnant with information pertinent to the subject under discussion The author's urbane, witty outlook is shown by the wise and amusing aphorisms with which he has preceded some of his chapters and sprinkled his book

The illustrations are excellent and the index especially praiseworthy The format of the book is exceptionally good This is a worth while contribution to contemporary surgical literature

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[5] A Doctor s Advice to Women Richard A Leonardo M D F I C S F [illegible] 15

[6] Extensile Exposure Applied to Limb Surgery Arnold K Henry, M (Hon), Cairo, F R C S I 180 pp , 127 figs L & S Livingstone Ltd , Price 30 s net

The third revision of the sixth edition of a classic in its field, **Stander's Textbook of Obstetrics**[7] has been modernized, rewritten and reillustrated. It is a worth while book, designed for both the student and the practitioner of obstetrics. Every aspect of the subject is covered, including not only the scientific and clinical data but the historical and theoretical considerations as well.

The general plan of the book has been changed, so that the subjects are presented in sections and under subheadings, instead of in chapters. This is an aid to reference, as it will later be to revision.

The illustrations are worthy of special notice and commendation. Many are in color, and all add materially to the instructive value of the book. As a whole the volume is most valuable, and should be in the hands of every student and practitioner.

The increased utilization of **Christopher's Textbook of Surgery**[8] in civilian practice and, especially, by the military forces during the war has necessitated a fourth edition containing several entirely new sections.

The continued popularity of this work is justified by this new edition. The two hundred authors are all specialists in their line, some more and a few less well known, but all extremely competent. It is to be regretted, however, that the editor, Dr. Christopher, did not contribute more to the work.

The task of the contributors was made more difficult by the necessity of their compressing their articles to a length suitable to this one volume work; but, taken as a whole, an excellent piece of work has been done. To point out any particular part or to analyze any definite phase would be impossible in the scope of a review of this type. The treatments presented are those tested and accepted in present day surgery, and debatable methods are not included. A great deal of effort has been put into the opus, and the work is authoritative and highly recommended.

Leo G. Rigler has written an exceptionally fine book on the **Outline of Roentgen Diagnosis,**[9] which now appears in its second edition. The work has been entirely revised and thoroughly overhauled and the text rewritten. The rapid advances in methods and application of examination, the newer procedures, such as roentgenokymography, body section roentgenography and myelography for herniation of the intervertebral disk, have been incorporated in this latest edition. The more uncommon diseases and more recently recognized syndromes (sarcoidosis, brucellosis, erythroblastic anemia), the value of fluoroscopy and the dangers incident to roentgen examination are ably discussed, with the needs of both teacher and student kept in mind. The arrangement particularly will appeal to all interested in roentgenologic technic, and the illustrations are a delight. With reference to the arrangement, let us take for an example the mastoids. The author speaks first of the development of animal anatomy and then of technical considerations, which are followed by pathologic statements. He concludes with an evaluation of roentgenologic diagnosis. One seldom encounters in a book of this type such excellent systematization, arrangement and freedom from padding. The appended pictorial atlas which follows a comprehensive index rounds out the work, which should be in every library and on the bookshelf of all practitioners and specialists.

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[7] Textbook of Obstetrics. Third Revision, representing the Ninth Edition of Williams' Obstetrics. Henricus J. Stander, M.D., F.A.C.S. 1287 pp., with 973 illustrations in 740 figures. D. Appleton-Century Company, Inc., New York, 1945. Price $10.00.

[8] A Textbook of Surgery, by American Authors. Fourth Edition, Revised and Reset. Edited by Frederick Christopher, B.S., M.D., F.A.C.S. 1574 pp., with 1483 illustrations in 762 figures. W. B. Saunders Company, Philadelphia, 1945.

[9] Outline of Roentgen Diagnosis. Leo G. Rigler. J. B. Lippincott Co., Philadelphia, 1943.

M S Dooley and **Maynard E Holmes** have brought their convenient little **Intern's Handbook**[10] up to date in the third edition Its purpose is to help the intern avoid dangerous mistakes by supplying him with the vital information which will enable him to meet the emergencies commonly encountered The work covers the intern s relationships with the hospital provides him with elementary knowledge of medical jurisprudence and furnishes him with an outline of directions for usual emergency laboratory tests A section on medicine emphasizes the importance of an accurate history and physical examination Recent information on diseases of allergy and endocrine disturbances is presented The section on surgery includes explanation of procedures and the rudiments of inhalation anesthesia Up to date information on chemotherapy and vitamins is a valuable addition to the section on therapy New subjects treated are pulmonary emboli and blast injuries A discussion of therapeutic uses of blood products has been added to the subject of blood grouping Illustrations make clearer the methods of resuscitation described A useful feature is the inclusion of a laboratory library The volume is well indexed and is recommended not only to interns but as a handy reference guide for the young physician

Those who read Portuguese will find food for thought in **Prof Paulo Coelho Netto's Perversao Sexual e Cancer**[11] The author induces the correlation between sexual perversion and the incidence of cancer The booklet is less than 50 pages but encompasses such informative chapters as those on the "scourge" of the 20th century, the march of cancer through the years cancer and Epicurean pleasures, and cancer and sexual hormones Dr Netto mentions the various theories prevalent on the cause of cancer, pointing out that the incidence of this dread "scourge" has nearly doubled in the United States since 1900, has nearly tripled in England since 1880, and has increased in Brazil at an alarming rate Following the First World War, men exhausted by war and afflicted with the attendant psychoses and psychoneuroses returned to the Epicurean philosophy of life Such authors as Freud, Forel and Havelock Ellis were occupying themselves with sodomy, tribadism, homosexuality, nymphomania and exhibitionism Paris where certain unnatural sexual practices were particularly in vogue, had in 1924, according to the statistics of Joseph Thomas the second highest incidence of cancer of any city in the world Dr Netto gives a resume of the various studies made on cancer and sexual hormones All in all, the volume makes good collateral reading

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[10] Intern's Handbook M S Dooley and Maynard E Holmes J B Lippincott Co, Philadelphia, 1944 Price $3

[11] Perversao Sexual e Cancer Paulo Coelho Netto Oficinas Graficas do "Jornal do Brasil," Rio de Janeiro, 1944

Acknowledgments

The following publications have been received regularly by the editorial office of the *Journal* during the past year.

Argentina
Archivos Americanos de Medicina (Buenos Aires)
Archivos Argentinos de Tisiología (Buenos Aires)
Boletín del Instituto de Clínica Quirúrgica (Buenos Aires)
Boletín del Instituto de Medicina Experimental para el Estudio y Tratamiento del Cancer (Buenos Aires)
Boletines de la Sociedad de Cirugía de Rosario (Rosario)
La Revista de Medicina y Ciencias Afines (Buenos Aires)
Revista Argentino-Norteamericana de Ciencias Médicas (Buenos Aires)
Revista de la Sanidad Militar (Buenos Aires)
Revista de Medicina Cancerología (Rosario)
Revista Médico-Quirúrgica de Pathología Femenina (Buenos Aires)
Revista Oto-Neuro Oftalmológica y de Cirugía Neurológica Sud-Americana (Buenos Aires)

Bolivia
Gaceta Médico-Quirúrgica de Bolivia (La Paz)
Prensa Médica (La Paz)
Revista de la Sanidad Militar (La Paz)

Australia
The Australian and New Zealand Journal of Surgery (Sidney)

Brazil
Anais Paulistas de Medicina e Cirugia (São Paulo)
Arquivos Brasileiros de Cirugia e Ortopedia. (Recife)
Arquivos de Cirugía Clínica e Experimental (São Paulo)
Biología Médica (Niterói)
Boletim do Instituto Vital Brasil (Niterói)
Boletim do Sanatorio São Lucas (São Paulo)
Brasil-Médico (Rio de Janeiro)
Brasil Médico-Cirurgico (Rio de Janeiro)
Gazeta Clínica (São Paulo)
Jornal dos Clínicos (Rio de Janeiro)
Illustração Médica (Rio de Janeiro)
O Hospital (Rio de Janeiro)
Revista Brasileira de Tuberculose (Rio de Janeiro)
Revista Clínica de São Paulo (São Paulo)
Revista de Ginecología e d'Obstretricía (Rio de Janeiro)
Revista Fluminense de Medicina (Rio de Janeiro)
Revista de Obstetricía e Ginecología de São Paulo (São Paulo)
Revista Médico-Cirúrgica do Brasil (Rio de Janeiro)
Seara Médica (São Paulo)

Canada
Bulletin of the Vancouver Medical Association
The Manitoba Medical Review (Winnipeg)

Ceylon
Journal of the Ceylon Branch of the British Medical Association (Colombo)

Chile
Archivos de la Sociedad de Cirujanos de Hopital (Santiago de Chile)
Revista Chilena de Higiene y Medicina Preventiva (Santiago de Chile)
Revista de Medicina (Valparaiso)

Colombia
Colombia Médica (Bogotà)
Medicina y Cirugia (Bogotà)
Revista de la Cruz Roja Colombiana (Bogotà)

Costa Rica
Revista Médica de Costa Rica (San José)

Cuba
Anales de la Academia de Ciencias Médicas, Físicas y Naturales de la Habana (Habana)
Boletín de la Liga Contra el Cancer (Edición Cientifica) (Habana)
Boletín Mensual del Hospital de la Policia Nacional (Habana)
Revista de la Sanidad Militar (Habana)
Revista Médica Cubana (Habana)
Sanidad y Beneficencia Municipal (Habana)
Vida Nueva (Habana)
Villaclara Médica (Santa Clara)

Ecuador
Previsón Social (Quito)

El Salvador
Archivos del Hospital Rosales (San Salvador)
El Salvador Médica (San Salvador)

England
Proceedings of the Royal Society of Medicine (London)

France
Lyon Chirurgical (Lyon)

Guatemala
La Juventud Médica (Guatemala City)

Haiti
Bulletin du Service d'Hygiène et d'Assistance Publique Médical et Sanitaire (Port-au-Prince)

Mexico
Actas Academias de Clínica (Guadalajara)
Archivos de Neurologia y Psiquiatria de México (México, D. F.)
Boletín del Hospital Oftalmológico de Nuestra Señora de la Luz (México, D. F.)
Boletín del Sanatorio "Dr. Nicandro L. Melo" (Veracruz)
Cirugía y Cirujanos (México, D. F.)
Excerta Médica de la S.C.O.P. (México, D. F.)
Gaceta Médica (Villahermosa)
Gaceta Médica de Mexico (México, D. F.)

Medicina (México, D F)
Monterrey Médico (Monterrey)
Notas Quirurgicas del Sanatorio Deschamps (Veracruz)
Pasteur (México, D F)
Revista de Cirugia (Mexico, D F)
Revista de la Universidad Puebla
Revista de Medicina y Ciencias Afines (México, D F)
Revista de Urologia (México, D F)
Revista Médica (Puebla)
Revista Médica del Hospital General (México)
Revista Medica Veracruzana (Veracruz)
Revista Mensual de Medicina (Mexico D F)
Revista Mexicana de Ciencias Medicas y Biologicas (México, D F)
Revista Mexicana de Cirugia Ginecologia y Cancer (México, D F)
Revista Mexicana de Tisiologia (México D F)
Revista Mexicana de Tuberculosis (Mexico, D F)
Salubridad y Asistencia (Mexico, D F)
Sugestiones (México, D F)
U M L , Revista de Medicina y Cirugia (Leon)

Palestine

Acta Medica Orientalia The Palestine and Near East Medical Journal (Jerusalem)

Paraguay

Anales de Ciencias Médicas (Asunción)
Revista Medica del Paraguay (Asunción)

Peru

Anales de la Facultad de Medicina (Lima)
Gaceta Peruana de Cirugia y Medicina (Lima)
La Cronica Médica (Lima)
La Reforma Médica (Lima)
Revista Médica Peruana (Lima)

Portugal

Boletim do Instituto Portugués de Oncologia (Lisbon)

Puerto Rico

Boletín de la Asociacion Medica de Puerto Rico (Santurce)
The Puerto Rico Journal of Public Health and Tropical Medicine

Rumania

Revista Romanâ de Urologie (Bucharest)

Spain

Revista Española de Cirugia (Madrid)

Sweden

Acta Chirurgica Scandinavica (Goteborg)
Upsala Lakareforenings Forhandlingar (Upsala)

Switzerland

Helvetica Medica Acta (Basel)

Union of Soviet Socialist Republics

Chirurgia (Moscow)
Comptes Rendus (Doklady) de l'Académie des Sciences de l'USSR (Moscow)
Sovetskaya Medicina (Moscow)
Voenno Sanitarnoe Delo (Moscow)

Union of South Africa

Clinical Proceedings (Cape Town)
The South African Journal of the Medical Sciences (Johannesburg)

United States of America

American Review of Soviet Medicine (New York)
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Boletín de la Oficina Sanitaria Panamericana (Washington, D C)
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Información sobre Enfermedades Venéreas (Washington, D C)

Uruguay

Anales de la Facultad de Medicina de Montevideo (Montevideo)
Archivos Uruguayos de Medicina, Cirugía y Especialidades (Montevideo)
Boletin de la Sociedad de Cirugia del Uruguay (Montevideo)

Venezuela

Anales del Instituto de Cirugía Experimental (Caracas)
Boletín del Laboratorio de la Clinica ‘‘Luis Razetti’’ (Caracas)
Boletin de los Hospitales (Caracas)
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Revista de la Sanidad Militar (Caracas)
Revista de la Sociedad Médico Quirúrgica del Zulia (Maracaibo)

SURGEONS AND EVENTS

SIR MORELL MACKENZIE

1835–1892

The name of Sir Morell Mackenzie is mentioned on only two pages of Garrison's "History of Medicine," and these pages merely refer briefly to his textbooks. His name is familiar to many surgeons, however, both because of these textbooks and because of his book "Frederick the Noble."[1] The latter is Mackenzie's own account (for the lay public) of the tragic case of the Emperor Frederick III of Germany, who died of carcinoma of the larynx in spite of the attendance of Mackenzie and of some of the leading physicians of Germany. Of this case and of the book we shall speak later. Let us first consider Mackenzie the man and the physician.[*]

Morell Mackenzie was descended from a prominent Scotch family. One of his uncles was Charles Mackenzie, better known as Henry Compton, the famous exponent of Shakespeare's clowns. His father, Stephen Mackenzie, was a physician and a man of taste, culture and literary enthusiasm. His mother, who shared many of her husband's literary interests, was active and energetic, a good manager and a good talker. Her devout nature led her to be perhaps overly conscientious and zealous with regard both to her own principles and conduct and to those of others.

As a child Morell gave his parents some anxiety concerning his physical and mental development. He had a tendency to hydrocephalus and to mental sluggishness, accompanied with an unusual emotional sensibility. His education was retarded for a few years because of illnesses. However, his health improved during adolescence, and he did well in school, especially in art work.

When he was 14 his father's death caused him to become suddenly aged and sobered, and he acquired a sense of family responsibility and a strength of purpose which began to turn the dreamy, rather slow lad into the forceful adult who was to become Morell Mackenzie the successful physician.

There was no thought of Morell's studying medicine at first, and at the age of 16 he went to work in an insurance office. He then began to read medical books, and later he attended evening classes at King's College. Impressed by his enterprise, an aunt decided to finance his medical education, and he left the insurance office and enrolled at the London Hospital College.

It was during his years in the medical college that he first began to show a tendency to challenge things he thought unfair and to engage in controversies. Later this tendency was expressed in numerous articles in medical and lay periodicals and in criticisms of policies of the established medical organizations.

After his graduation, again financed by his aunt, he went for postgraduate study in Paris, Prague and Vienna. In Germany, in 1859, he met Professor Czermack and was introduced to the laryngoscope. This incident probably determined the course of his future career, which was dedicated to diseases of the throat.

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[*] Much of the biographical information given here was gained from a book written by a friend of Mackenzie (Haweis, H. R.: Sir Morell Mackenzie: Physician and Operator, A memoir compiled and edited from private papers and personal reminiscences: London, England, W. H. Allen & Co., Limited, 1893.).

On his return to London, his first post was as assistant physician at his old hospital, the London Hospital. He soon became impatient with the slowness of the hospital routine and eager to set up an independent practice along the lines of his special interest. He said to his sister one day, "Ag, if I am ever to make anything of the throat I must see more patients. Come out with me, and I will tell you what I shall do." What he did was to rent two rooms at No. 5 King Street, Regent Street, and to establish in them the Metropolitan Free Dispensary for Diseases of the Throat. This was the forerunner of the famous Hospital for Diseases of the Throat, in which Mackenzie pioneered as a specialist in an era when specialization was frowned upon. The importance of this institution soon became recognized not only by patients but by physicians, and it was visited by general practitioners and specialists from many countries.

During the next few years, in addition to building up the hospital, Mackenzie developed a huge private practice, among all classes of people. His average day was fourteen hours of steady professional toil: first, house calls, then, work in his own offices, seeing patients in rapid succession. His diagnosis with the laryngoscope was said to be especially rapid and skillful. He had many critics, who accused him of charging exorbitant fees, of handling patients too rapidly, or of being impatient or indifferent. Other persons, however, testified to the wonderful relief he afforded them and to his generosity. It would be impossible to sift the evidence behind these varied opinions. Probably they represent the same sorts of reactions that come to any physician with a large private practice. At any rate, it is undeniable that his practice flourished and that he acquired a reputation for expert diagnosis and treatment.

In 1887, at the age of 50, Mackenzie entered upon his most famous case, the aforementioned one of the Emperor Frederick III, which shadowed the last six years of his life. The details of this case are too many and too complicated to be given here, and are easily available elsewhere.[1, 2] The essential situation, however, was as follows.

In May 1887 Sir Morell Mackenzie was summoned to Berlin in behalf of Crown Prince Frederick. He found several German physicians in attendance, who requested him to examine the royal patient's throat with the laryngoscope. This examination revealed a small growth on the posterior part of the left vocal cord. The fact that the mass partly disappeared on phonation indicated that it was partly subglottic. Some of the German physicians thought that the growth was malignant. Mackenzie, however, said that there was no actual evidence for a diagnosis of cancer, and recommended that part of the neoplasm be removed for microscopic examination. At the request of the other physicians, he removed a specimen with a forceps. This was submitted to Rudolf Virchow, who was unable to find evidence of malignancy. An operation was therefore not undertaken at that time. The care of the patient was entrusted to Mackenzie. On later occasions Mackenzie again removed fragments of the growth endolaryngeally with forceps, again failed to reveal cancer. Virchow stated that the lesion was apparently what he termed "pachydermia verrucosa." In June Mackenzie removed what was apparently the last of the growth.

Later a swelling developed below the middle of the left vocal cord. Again some of the physicians diagnosed cancer, and suggestions for treatment included total laryngectomy and a paliative tracheotomy. There was still no positive evidence of cancer, however. The prince refused to submit to laryngectomy, but in order to relieve dyspnea a tracheotomy was performed in February 1888, by one of the German physicians. Afterward Professor Waldeyer found bits of cancerous tissue in the sputum. By that time the disease had progressed too far to be dealt with effectively, and the patient (then Emperor Frederick III) died in June 1888.

This brief résumé of facts does not reflect the actual drama of the case. The course was one of hesitation, disagreement and criticism among the physicians and of tolerant cooperation by the patient, accompanied with some real suffering, partly due to various manipulations and ill advised treatments to which his throat was subjected.

Colledge,[3] in his evaluation of the case, raised two questions: "Firstly why did Mackenzie fail to recognize the [illegible] of the disease, and secondly why [illegible] fail to obtain specimens of tissue [illegible] a correct diagnosis could [illegible] made by Virchow?" The [illegible] these questions, in his [illegible] tumor was sub- [illegible] Mackenzie evidently [illegible] subglottic [illegible] did not [illegible] of [illegible] published in 1880, although it had been recognized by Isambert in 1876. Some of the German physicians did make the correct diagnosis, but they too failed to realize the extent and location of the growth. Hence, even if some of their recommendations for treatment had been followed, the results might not have been all that they expected. Colledge pointed out, however, that "in spite of the . . . delay and the onset of perichondritis, the patient might still have been saved in November by total laryngectomy."

Unfortunate as the history and outcome of the case were, some of the attendant and following circumstances made it even more regrettable. The antagonisms of the physicians concerned have already been mentioned. And these were not confined to their own consultations, or even to professional circles. The lay press as well as medical journals took up the discussion, and violent criticisms of Mackenzie were published in German newspapers. After the death of the emperor, instead of drawing together in regret for the tragedy and in efforts to see whether and how it might have been avoided, both the German physicians and Mackenzie concentrated their efforts on defending their own positions. The German physicians published long reports presenting their point of view and denouncing Mackenzie's actions. Mackenzie, in his turn, published "Frederick the Noble," a book frankly written for the lay public, in which he set forth in simple yet dramatic fashion his conception of the case, stage by stage, and his part in it. The presentation of such a report to the public brought a vote of censure against Mackenzie from the Royal College of Surgeons. The College of Physicians summoned him to appear before it, but he declined to do so and instead asked that his name be removed from the roll and his diploma returned to him It was revealed after his death that the Queen and Lord Salisbury had insisted that he address his reply to his critics to the public instead of merely to the members of the medical profession

Mackenzie continued with his practice after his return from Germany to London, but his health, never robust, was failing, and he died a few years later, in 1892, at the age of 57 To what extent his early death may have been due to the strain of the case of the Emperor Frederick it is difficult to say. It is difficult to say also how differently his career might have ended and been remembered had it not been for this case.

Whatever one wishes to think about Mackenzie's part in this case and about his publication of "Frederick the Noble" from the standpoint of professional efficiency and professional ethics, one might pause to wonder what effect a book like this would have had on laymen who read it. Would the question of who was to blame for each wrong step in diagnosis and treatment have seemed important to them? Would they have thought that the reputation of the physicians was more important than the seeking of truth for the benefit of future patients? If anyone is inspired by this report to read the book, perhaps he will think on these things.

MAX THOREK.

REFERENCES

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2 Von Bergmann Gerhardt Schrotter and others Die Krankheit Kaiser Friederichs des Dritten Berlin 1888
3 Colledge Lionel The Laryngeal Disease of the Emperor Frederick J Laryng & Otol 51 31-35 (Jan) 1936

COLLEGE INSIGNIA KEYS READY FOR DISTRIBUTION

The *College Insignia Keys* which have been approved by the International Board of Trustees and by the Executive Council of the United States Chapter (see illustrations) are ready for distribution.

Matriculates may use the base metal key (the price of which is $2.75); *Affiliates,* the bronze key ($3.00); *Associates,* the sterling silver key ($4.00); *Fellows,* the solid 14 karat gold key ($18.00). Distinctive keys for *national* and *international officers* are available; descriptions and prices will be furnished upon request Federal tax additional.

NOTE When a surgeon is advanced from a lower to a higher rank in the College, he shall return the respective key to the official jeweler before receiving his new key

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Sección en Español

La Asamblea Internacional en Lima

Un acontecimiento de primera magnitud científica será la Quinta Asamblea Internacional del Colegio Internacional de Cirujanos que se celebrará en Lima, Perú, los dias 24, 25, 26 y 27 de marzo de 1946. El prestigio de la sociedad organizadora, la colaboración de algunos eminentes cirujanos del mundo y el apoyo oficial que el Gobierno Peruano presta a la reunión internacional de Lima, son todos ellos factores que garantizan el alto significado de la Asamblea.

Conjuntamente con las reuniones del Colegio Internacional de Cirujanos se verificará en la Capital peruana la Primera *Conferencia de la Academia* de Cirugía del Perú, hecho que habrá de realzar la inportancia del Congreso como un medio de comunicación e intercambio internacional. Constituye ello una oportunidad excepcional para todos aquellos interesados en el avance de la ciencia quirúrgica en benefico de la enseñanza universal.

Cabe a uno de nuestros Directores, el ilustre cirujano Dr. Francisco Graña, el honor de presidir el Congreso. El Profesor Graña, cuyo prestigio internacional le ha hecho acreedor de la admiración del mundo científico, tiene en sus manos la organización directa de las labores de la Asamblea, y ello es tanto como decir que el exito más rotundo será el obligado colofón de los actos que se realicen.

En las tareas de la Asamblea habrán de tomar parte numerosos cirujanos de varias países, que presentarán trabajos de suma importancia quirúrgica y con ello llevarán a cabo una obra de acercamiento entre los diferentes movimientos cientificos de sus respectivas naciones. Sirvirán las reuniones de Lima, ademas, para poner en contacto directo a los hombres de ciencia de distintas nacionalidades en beneficio del progreso de la cirugía. Es este un acontecimiento científico de gran significado que marca una fase culminante de las actividades del Colegio Internacional de Cirujanos. A traves de esta Organización hallan adecuada canalización y expansión los adelantos de la ciencia quirúrgica, y todos aquellos interesados en temas de esta índole son deudores al Colegio de *un servicio de suma importancia*: la defensa de un alto nivel de ética profesional y la constante información puesta al alcance de todos mediante su Organo oficial y a través de sus diversos Capítulos. La desinteresada y altruista labor llevada a cabo por el Colegio Internacional de Cirujanos es un timbre de orgullo que cada vez se acrecienta con nuevas aportaciones y renovados servicios allí donde la ayuda o la inspiración de ésta Organización sean necesarias.

El Capítulo Peruano, por su parte, bajo la atinada dirección del Dr. Graña, ha estado atento al beneficio internacional que se deriva de reuniones como esta de Lima y en prueba de ello transcribimos la comunicación que dicho Capítulo ha dirigido a los demas Capítulos del Colegio:

"Estimado Colega:

En ocasión pasada tuvimos el agrado de manifestarle que, a pedido del Capítulo

Peruano, el Gobierno del Perú había acordado invitar al Colegio Internacional de Cirujanos, para que celebrara en Lima la Quinta Asamblea Internacional del Colegio.

Dificultades del transporte aéreo que oportunamente, le hicimos conocer, impidieron cumplir tal propósito en la fecha señalada, por lo que el Comité de Regentes del Colegio, con la aceptación del Gobierno del Perú ha fijado una nueva fecha para la reunión que se verificará en los días 25, 26 y 27 de marzo de 1946.

Deseamos manifestarle a la vez que la Academia Peruana de Cirugía tenía proyectado, desde hace algún tiempo la realización de Conferencias o Congresos nacionales de Cirugía, con el fin de congregar periódicamente, a todos los profesionales peruanos que se dedican a esta rama de la ciencia y sus especialidades. Con tal motivo se realizaron algunas gestiones cerca del Gobierno para que la primera reunión se llevara a cabo durante el presente año, y la Academia en conocimiento de que la Quinta Asamblea del Colegio Internacional de Cirujanos se realizaría en Lima el próximo marzo, acordó que la Primera Conferencia de la Academia se verificará simultáneamente, ya que la organización de ambas pueden verificarla, de común acuerdo, los Comités Ejecutivos de las dos instituciones, aprovechando los mismos elementos y medios necesarios para este género de certámenes científicos.

De esta manera, en las sesiones de carácter científico participarán tanto los miembros del Colegio de Cirujanos como los miembros de la Academia de Cirugía y además los cirujanos, peruanos y extranjeros que concurran a la Conferencia. De esta manera se verificará un provechoso intercambio de ideas y opiniones, técnicas y principios, entre los representantes de los distintos países concurrentes.

Por este motivo, en nombre del Capítulo Peruano del Colegio Internacional de Cirujanos, nos dirigimos a usted, para que se digne poner esta invitación en conocimiento de los miembros del Capítulo que usted preside, y el especial pedido nuestro para que coopere al éxito de la Quinta Asamblea del Colegio, próxima a celebrarse en Lima.

Deseamos manifestarle que en los congresos y reuniones científicas celebrados en los últimos tiempos, se han abandonado los trabajos de índole académica sumamente extensos y minuciosos, prefiriéndose los estudios concretos, síntesis y compendios, que contengan hechos, resultados, observaciones, precisa y netamente expresados y que pueden ser expuestos en cortos períodos de tiempo. Las gráficas, fotografías, películas, estadísticas, radiografías, tienen en cambio gran interés.

En representación del Capítulo Peruano del Colegio, encomendamos a usted la organización de la concurrencia de ese Capítulo, la designación de los delegados y otras circunstancias relativas a la participación de ustedes en la Quinta Asamblea.

En espera de que el Capítulo que usted dignamente dirige, podrá prestarnos su valiosa cooperación científica y conferirnos el honor de tener entre nosotros algunos delegados de su país, nos es grato saludar a usted y estrechar sus manos cordialmente.

Dr. Francisco Graña
Dr. Francisco Wieland
Dr. Amador Merino Reyna
Dr. Alberto Sabogal

Miembros de la Junta Directiva del Capítulo Peruano del Colegio Internacional de Cirujanos

La Asamblea Internacional de Lima, así como la reunión del Capítulo Norteamericano que se inauguró en Washington, D. C., el 7 de diciembre, constituyen prueba inequívoca de la persistente e intensa labor del Colegio Internacional de Cirujanos que, bajo la dirección de algunos de los más ilustres hombres de ciencia del mundo, trabaja sin interrupción por el bien de todos los colegas y en beneficio del adelanto de la ciencia quirúrgica.

En muchos países del mundo laboran abnegadamente, en un esfuerzo común, los distintos Capítulos del Colegio, teniendo como única norma el beneficio de la humanidad doliente. No se escatiman sacrificios ni se ahorran esfuerzos; donde quiera que estén los miembros del Colegio aportan su colaboración sin reservas. Bajo los Reglamentos del Colegio Internacional de Cirujanos los Capítulos que lo componen se apoyan entre sí y auxilian todas aquellas empresas que redunden en beneficio del adelanto y de la superación de la Cirugía.

Este *internacionalismo quirúrgico* constituye la base de la existencia misma del Colegio Internacional de Cirujanos, como un Organismo de extensión mundial destinado al intercambio de conocimientos y de enseñanzas en una comunión de pensamiento que unifica a la gran *familia quirúrgica.* Esta hermandad científica constituye una de las bases más firmes para afianzar los nuevos cimientos de un mundo asolado por la guerra pasada y agobiado por tantos sufrimientos.

MANUEL MANRIQUE.

NOTICIAS Y ANUNCIOS

Servicio de Información.—Con el fin de prestar la mayor asistencia posible a los cirujanos que se interesen por la investigación científica, la Sección Española del *Journal* ha inaugurado un Servicio de Información destinado a facilitar, a los cirujanos que los soliciten, los datos, bibliografía, antecedentes, descripciones de material, referencias de libros y artículos y otros que puedan interesar a los fines de investigación y enseñanza. Asimismo el Servicio de Información se esforzará en contestar satisfactoriamente cualquier consulta que se le diriga sobre temas científicos.

Se invita, por la presente, a todos los cirujanos para que utilicen este Servicio que altruistamente les ofrece el *Journal of the International College of Surgeons*, dirigiendose por escrito a nuestra Oficina de Redacción, Spanish Section, Journal of the International College of Surgeons, 850 West Irving Park Road, Chicago 13, Illinois, U. S. A.

Revista de Libros.—Muy en breve esta Sección en Español comenzará la publicación de una Revista de Libros, donde se comentarán los libros publicados en español sobre temas medicoquirúrgicos. Los comentarios estarán a cargo de eminentes especialistas en cada una de las materias a tratar. Invitamos a las casas editoriales para que envien al *Journal* sus publicaciones a fin de que sean comentadas debidamente.

Asamblea del Capitulo Norteamericano del Colegio Internacional de Cirujanos.—El dia 7 de diciembre se inauguró en Washington, D. C., la décima Asamblea Nacional del Capítulo Norteamericano del Colegio Internacional de Cirujanos, bajo la presidencia del eminente cirujano Dr. Custis Lee Hall. Colaboraron en las tareas del Congreso numerosos hombres de ciencia de prestigio internacional, presentando interesantes comunicaciones sobre variados temas de índole quirúrgica.

No hace falta realzar la gran importancia de las reuniones celebradas en el Congreso de Washington a donde concurrieron figuras preeminentes de la cirugía internacional.

Melanoblastoma con Dermofilotropismo Metastasico Sistematizado*

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MEXICO D. F., MEXICO

LA presente comunicación se refiere a un caso de melanoblastoma, blastoma melánico de estirpe conjuntiva, neoplasma muy raro y de los más malignos, cuyo interés aumenta por el carácter observado de una verdadera sistematización dermofilotrópica en la orientación metastásica del neoplasma, ocurrencia poco frecuente especialmente tratándose de melanoblastoma. Empleo la denominación de melanoblastoma porque, como en estudio oncológico anterior y en mi cátedra universitaria, he adoptado la terminología mexicana Ochoterena Benítez Zuckermann, usando nombres compuestos por el radical del tejido en cuestión, seguido de la desinencia *oma* cuando se trata de neoplasmas benignos, o *blastoma* cuando se trata de malignos,[1 2 3 4 5] lo que simplifica la enorme nomenclatura de los neoplasmas.

Entre los neoplasmas derivados del sistema mesenquimoconjuntivo se nombran genéricamente *melanoblastomas* a los que proceden del tejido melánico, dado que éste no da lugar a la formación de *omas*.[6] En virtud de ello, hago abstracción de la conveniencia, sugerida por Chatellier, de reservar la denominación de melanosarcoma, sarcoma melánico o melanoma mesenquimatoso maligno a los neoplasmas melánicos que se desarrollan a expensas de los melanoblastos conjuntivos,[7] implícito el término de melanoma maligno que emplean Cutler y Buschke,[8] muy frecuente por cierto en la literatura en la que, debido seguramente al pleomorfismo histológico se ha registrado hasta la mención variada y conjunta de melanoepitelioma, melanosarcoma, melanocarcinoma, melanoma maligno.[9]

GENESIS MELANOBLASTOMATOSA

Algunas publicaciones sobre neoplasma melánico equino, más frecuentemente observado en los solípedos de pelambre blanca aparecieron por primera vez a fines del siglo XVIII. Dupuytren dio a conocer la primera descripción humana en 1806.[10] Paget y Virchow señalaron las modificaciones degenerativas malignas que pueden ocurrir en los nevos, y Virchow se refirió a estos cambios individualizándolos como degeneración fibroblastomatosa y epitelioblastomatosa.[11 12] Sin embargo la diversa imagen histológica y el desconocimiento del verdadero origen neoplásico, fue inmediatamente punto de partida de divergencia de opiniones y discusiones sobre características y causalidad. En 1892, Renoul, citado por Chatellier, sospechó el origen neoplásico epidérmico.[13] Unna y Dawson y otros sustentaron la opinión de que el neoplasma es de origen epitelial.[14 15] Por otra parte, teniendo presente que muchos de estos neoplasmas ofrecen arquitecturalmente un aspecto fibroblastomatoso, se derivó la creencia de que los neoplasmas melánicos eran de origen mesoblástico, conforme fué reconocido por Ribbert.[16]

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* Presentado al II Congreso Nacional de Cancerología. La Habana, Cuba, mayo, 1945.

Por último, algunos investigadores han emitido recientemente la opinión del origen neuroectodérmico; el neoplasma, se derivaría, entonces, de los órganos terminales de los nervios sensitivos periféricos. Masson ha querido establecer que las células dendríticas, asimiladas por él a las llamadas erróneamente de Langerhans, no serían epiteliales sino nerviosas, pues las ha visto en relación con fibrillas neuroideas. Darier ha mencionado, refiriéndose a la proliferación de los nevos celulares y manchas pigmentosas, que serían neuromas terminales de los nervios táctiles.[17] En realidad, los neoplasmas melánicos son de origen névico y por lo mismo pueden ser epitelioblastomatosos o fibroblastomatosos, dado que los nevos pigmentosos divídense en epiteliales y conjuntivos.

Las células pigmentógenas son melanoblastos, originados unos del ectodermo y otros del mesodermo, pero solamente los melanoblastos ectodérmicos se encuentran en la piel humana normal; en la dermis normal existen células pigmentadas melanóforas. Sin embargo, ante la existencia de nevos azules y de la llamada mancha mongólica, se produce entonces la aparición de melanoblastos conjuntivos. A mayor abundamiento, se acepta actualmente que los tejidos mesenquimatosos son mesodérmicos y en parte ectodérmicos, lo que explicaría, hasta cierto punto, la incertidumbre ya apuntada en la génesis y clasificación de los neoplasmas melánicos.

ESPECULACIÓN PATOLÓGICA

Los neoplasmas melánicos malignos pueden originarse así: (*a*) traumatismo, irritación o tratamiento persistente de un nevo pigmentoso benigno, en virtud de agentes químicos o eléctricos; (*b*) por ...llo repentino de una manchita negra o morena sobre piel precisamente normal; (*c*) por melanosis preexistente precancerosa, caracterizada por manchas melánicas, en individuos de una edad aproximada de 40 años, que se convierte súbitamente en maligna.[8]

El melanoblastoma se origina generalmente de nevos previamente benignos, muy ocurre de ordinario en la piel, y raramente en el ojo, meninges y membranas mucosas, en donde es más frecuente el blastoma melánico de estirpe epitelial, melanoepitelioblastoma. Los nevos congénitos pigmentosos están constituídos por restos celulares ectomesodérmicos de desarrollo embrionario, y por lo mismo pueden pertenecer a la categoría de neoplasmas epiteliales o a la de conectivovasculares. Comprenden dos tipos: el pigmentoso simple y los pigmentosos tuberosos, blandos y duros; algunos mencionan también los nevos vasculares, pero no tendría en realidad lugar su individualización, dado que su concepto se confunde, hasta cierto punto, con el angioma simple.

En la localización cutánea ha sido señalada la influencia de las irradiaciones solares, que tratan de demostrar las observaciones clínicas y trabajos experimentales de Roffo, donde juega importante papel el colesterol al acumularse localmente bajo la acción de dichas irradiaciones.[18, 19, 20, 21, 22]

CONSIDERACIONES CLÍNICAS

Se acepta que la mayor frecuencia de los neoplasmas malignos cutáneos corresponde, en general, a un período edad comprendido entre los 40 a los 80 años. Según Pack y Le Fevre, la edad media para el melanoblastoma (melanoma maligno) es la de 48 años;[23] Nathanson y Welch han señalado a su vez la de 49 años en hombres y 55 años en mujeres.[24] De todos modos, los melanoblastomas son neoplasmas muy ratos, en una estadística absoluta de Roffo sobre neoplasmas malignos [illegible], que abarca un periodo de seis años, se registra solamente un caso de melanoblastoma, estimándose que tiene lugar en 0.62 por ciento. Ignacio González Guzman me ha expresado personalmente que en aproximadamente 10,000 examenes histologicos sistematicos de neoplasmas, correspondientes a su servicio del Hospital General de Mexico y a su labor particular en un lapso de cinco años, sólo ha encontrado cuatro melanoblastomas, incluyendo el caso a que se refiere esta comunicacion.

Los neoplasmas de origen nevico deben considerarse siempre sumamente malignos, sobre todo cuando asumen el carácter melanoblastomatoso dado que el melanoblastoma es reconocido universalmente *como el mas maligno de los* neoplasmas.[26] Debe tenerse presente que los melanoblastomas se desarrollan a expensas de melanoblastos conjuntivos névicos, *adquiriendo lentamente los* nevos una mayor extension periferica y presentando superficialmente granulaciones duras. Miescher encontró en 15 de 35 casos la evidencia de nevo previo,[27] Pack, citado por Adair, en una revisión de 300 casos en 1936, informa que ordinariamente habia como 20 lunares,[28] el neoplasma comienza a veces por un nodulito *intradermico*, que en breve tiempo muestra puntos pigmentados.

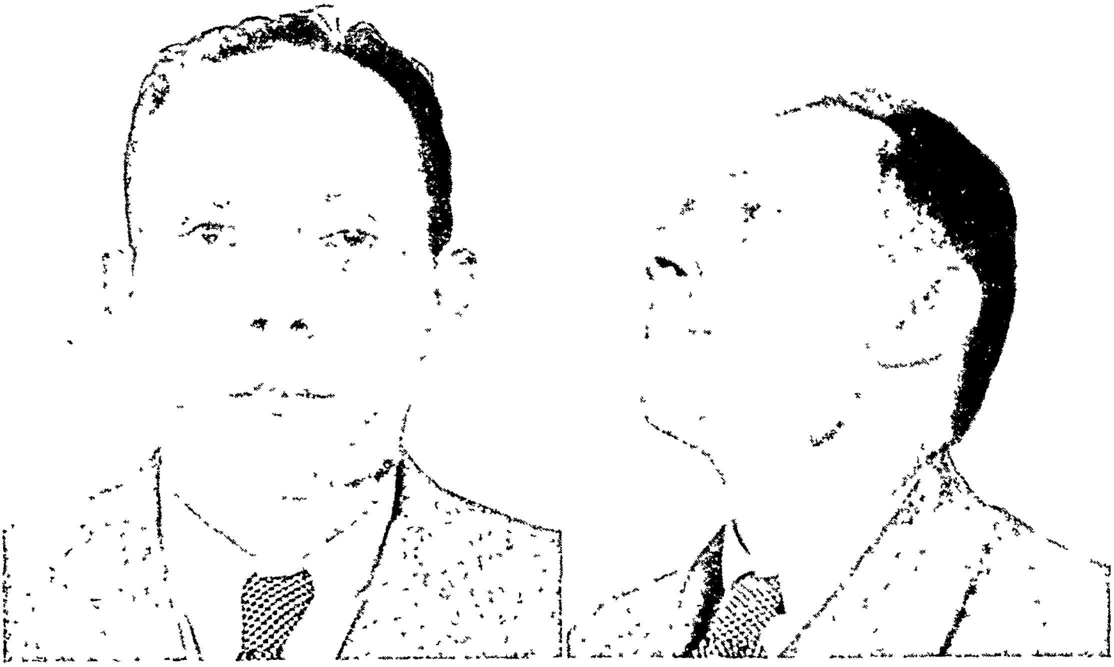
Los melanoblastomas ofrecen la particularidad de las metastasis por via linfatica, al contrario de lo que acontece con los fibroblastomas en general, las linfoglándulas no tardan en ser invadidas, lo que generalmente se manifiesta muy pronto, dada la reconocida malignidad neoplásica, pudiendo limitarse al principio la linfoadenometastasis a una o dos linfoglándulas, para extenderse en seguida la *invasión metastasica* en forma rapidisima observandose melanuria en ocasion de metastasis numerosas o extensas, la difusión blastomatosa conduce a la postre a la generalización neoplasica. Es conveniente mencionar a este respecto que, en algun caso como el consignado en esta comunicacion, puede observarse la existencia de notable dermofilotropismo, pues sin una positiva invasión de todo el organismo ocurren decenas de metástasis cutaneas, con el carácter de una verdadera sistematización en la orientación metastasica del neoplasma,[29] siendo esto *mas frecuente cuando* se trata de nevoepitelioblastomas que de melanoblastomas.

EXPOSICION HISTORIAL

G. C. 39 años edad, ingeniero civil cuyas actividades profesionales han tenido lugar durante trece años consecutivos, en una region de mediana altitud y clima templado humedo permaneciendo a la intemperie sistematicamente por periodos de cinco horas aproximadamente al dia. Tabaquismo moderado durante los ultimos diez años. Nevo congenito blando negro algo prominente situado en el parpado inferior izquierdo aproximadamente en su tercio medio y a unos cuantos milimetros del borde palpebral libre, quiescente hasta hace nueve años.

Se presenta a consultarme por primera vez el 29 de septiembre de 1939 y relata que de 1930 a 1936 el nevo congenito fue aumentando ligeramente en extension, habiendose iniciado al propio tiempo, en mayo de 1936, aumento de volumen hasta alcanzar el de un chicharo aproximadamente, presentandose entonces prurito localmente y descamacion, el crecimiento nevico continuo hasta alcanzar tres meses mas tarde, el volumen de un garbanzo aproximadamente, intensificandose la descamacion e interfiriendose ligeramente el campo visual por el aumento de volumen.

Dos meses despues, en octubre, por indicacion del médico que lo atendia, fué sometido a roentgen y curieterapia, quedando reducido *el nodulo en cuestion* a una mancha pigmen tosa, separada del borde palpebral por una zona acrómica de tres milímetros de ancho aproximadamente. En mayo de 1937 fué irradiado de nuevo sin modificación apreciable en el tamaño de la mancha pigmentosa, apareciendo en la periferia de la misma algunas pequeñas zonas acrómicas similares a la anterior; después de cuatro meses la mancha pigmentosa y las pequeñas zonas acrómicas habían aumentado en extensión, permaneciendo así prácticamente por dos años hasta que el enfermo se presentó a consultarme.



Figs. 1 y 2. *A la izquierda,* melanoblastoma palpebral inferior izquierdo y linfoadenometástasis submaxilar izquierda, vista anterior; *a la derecha,* vista lateral.

A principios de junio de 1937, casi en seguida de haber sido irradiado por segunda vez, apareció un nódulo preauricular izquierdo, que creció rápidamente en pocos días hasta alcanzar el volumen de un garbanzo aproximadamente, habiéndoselo extirpado algunos días después el colega que lo atendía y precisamente con bisturí metálico; ignora el dato histopatológico del nódulo extirpado, pero informa haber sido irradiado de nuevo en los meses inmediatos siguientes de julio y agosto.

En julio de 1939, dos meses aproximadamente antes de consultarme, notó un nódulo submaxilar izquierdo, a nivel del ángulo correspondiente del maxilar inferior, que a continuación creció rápidamente hasta alcanzar el volumen de una mandarina aproximadamente en el momento del examen; las figuras 1, 2 y 3 ilustran debidamente el neoplasma submaxilar izquierdo en cuestión y la mancha palpebral izquierda con pequeñas zonas acrómicas periféricas ya mencionada.

Algún tiempo antes de haber notado el nódulo submaxilar, seis u ocho meses aproximadamente, advirtió la aparición de dos nodulitos subcutáneos, ambos del lado izquierdo, situado uno a nivel del cruzamiento de la línea axilar media con la novena costilla y el otro a la altura de la espina ilíaca pósterosuperior, creciendo con relativa lentitud hasta el tamaño actual de una nuez aproximadamente; la figura 4 muestra dichos nódulos, pintada la piel para hacerlos fotográficamente más ostensibles, así como manchitas pigmentosas diseminadas en el tegumento.

El examen clínico revela lo siguiente la mancha pigmentosa palpebral izquierda ya mencionada, con los caracteres apuntados, figuras 1, 2 y 5, un tumor submaxilar del tamaño de una mandarina aproximadamente, ocupando el tercio posterior izquierdo de la región suprahiodea, rebasando ligeramente dicha región hacia arriba sobre el borde del maxilar inferior, de superficie discretamente regular y consistencia dura adherido al plano profundo y algo doloroso, figuras 1, 2 3 y 5, los dos nodulos y las manchitas pigmentosas ya mencionados, figura 4, asi como otros y diversos nodulitos subcutaneos, diseminados en la cara anterior del tórax y el abdomen, en mayor proporcion del lado izquierdo y con predominio toráxico mayor, y algunas manchitas pigmentosas distribuídas en el tegumento del tronco y extremidades, la figura 5 muestra dichos nodulitos, pintada la piel para hacerlos fotográficamente mas ostensibles, y algunas manchitas pigmentosas de localización toráxica anterior

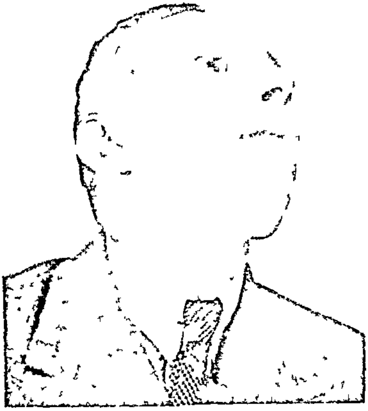


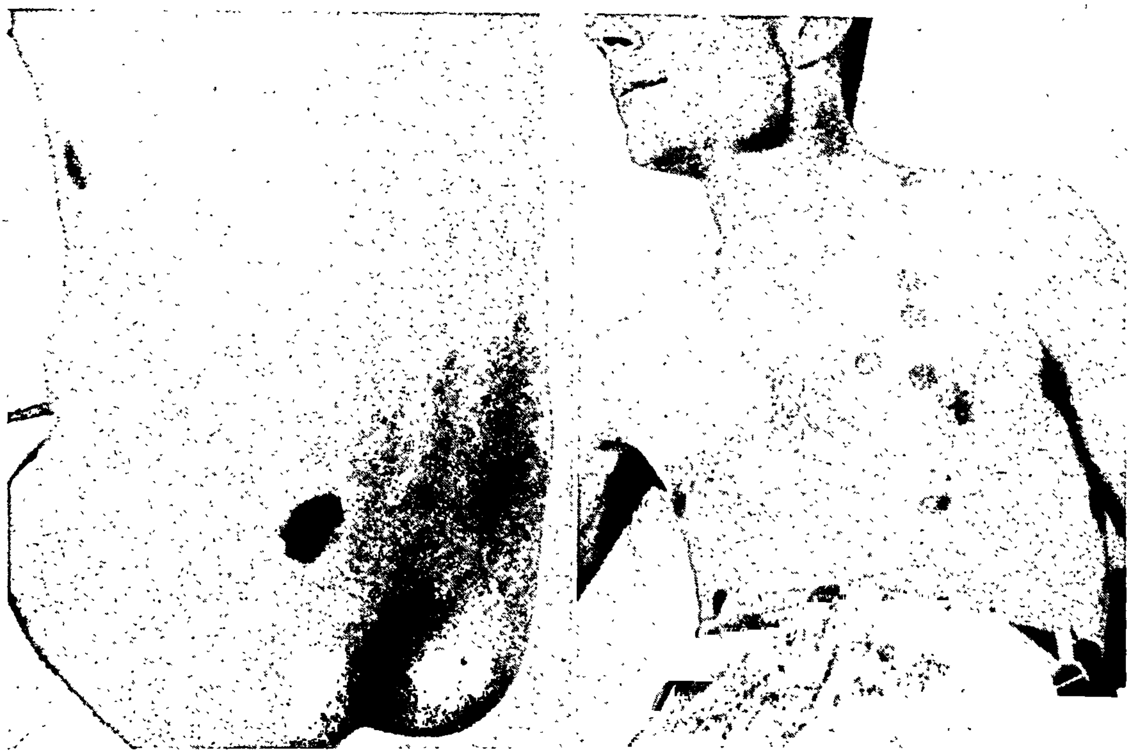
Fig Tumor adenometastasis melanoblastomatosa submaxilar izquierda vista contralateral

Se practica estudio roentgenográfico del maxilar inferior Dos roentgenogramas en proyecciones pósteroanterior y lateral izquierda figuras 6 y 7, observandose que la rama horizontal izquierda del maxilar presenta menor nitidez que la derecha, y que en una zona cercana al ángulo, abarcando desde el borde inferior hasta 3 milímetros aproximadamente sobre el mismo, hay signos de reaccion perióstica, posiblemente por proceso adherencial tumoral, pudiendo interpretarse la menor nitidez apuntada por disminución roentgenológica de la sombra del maxilar, debida a superposición de la masa tumoral existente Se efectua asimismo investigación roentgenológica de los aparatos esquelético, digestivo respiratorio y urinario, sin encontrar dato alguno de importancia sobre el particular

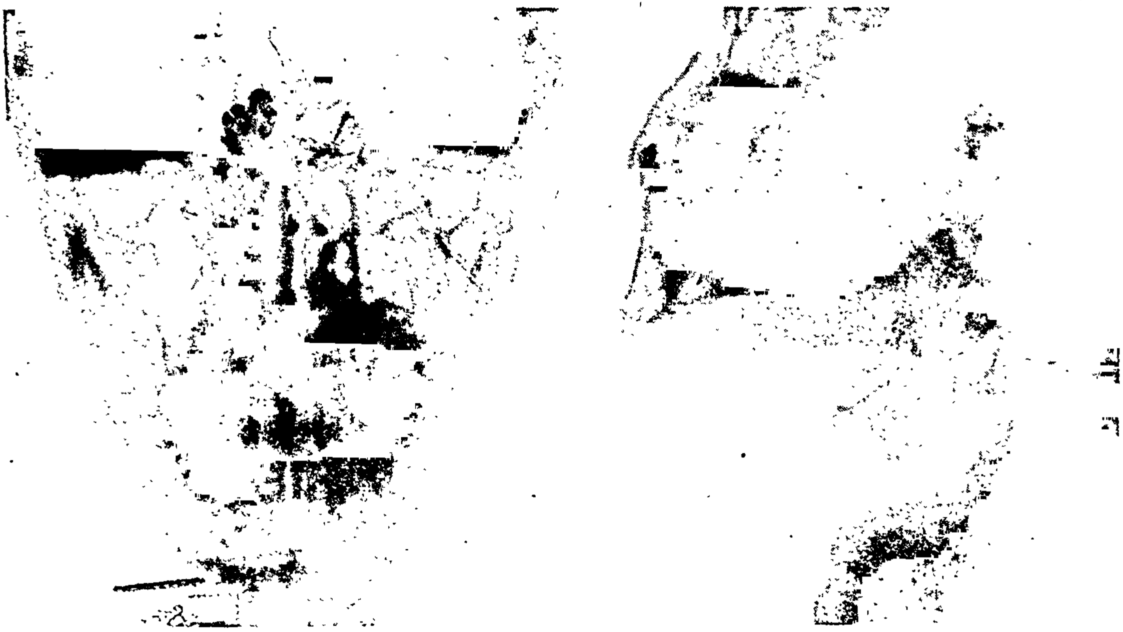
De los examenes de laboratorio realizados en auxilio de la clinica, la citologia hematica proporciona datos en relacion con la anemia secundaria neoplásica, aun cuando se trata de cifras algo discretas 4,220 000 eritrocitos 76 por ciento de hemoglobina, 0 90 de valor globular, anisocitosis muy ligera 48 de índice neutrofilo de Arneth Los demas exámenes de laboratorio, quimica y serología sanguineas, tiempos de sangria y coagulacion, pruebas funcionales cromagoga hepatica y de eliminacion renal, análisis de orina, revelan cifras y datos practicamente normales, la prueba de eritrosedimentación no se investiga por considerar en aquel entonces la diversa apreciación de su valor

El estado general del enfermo es hasta cierto punto satisfactorio, a pesar del carácter neoplásico invasor, temperatura casi normal, perdida poco importante de peso, palidez no muy señalada, algo de astenia, no ha habido algias y el tumor submaxilar, no obstante su rapido crecimiento, no ha determinado aun compresiones vásculonerviosas ostensibles En virtud de haberse observado anteriormente alguna modificación favorable con la roentgen y curieterapia, se solicita irradiación preoperatoria, sin olvidar al respecto la conocida radioresistencia del melanoblastoma Oportunamente se procede a la acción quirurgica con bisturí diatérmico

Accion Quirúrgica—Opero el 28 de octubre de 1939, abordando en una [illegible]era f



Figs. 4 y 5. *A la izquierda,* dos dermometástasis melanoblastomatosas (pintadas), toráxica lateral y pélvica izquierdas; manchitas pigmentosas dorsales. *A la derecha,* dermometástasis melanoblastomatosas diversas (pintadas) de predominio izquierdo y algunas manchitas pigmentosas, localización toráxica anterior.



Figs. 6 y 7. *A la izquierda,* roentgenograma pósteroanterior, menor nitidez, y reacción perióstica del maxilar inferior, rama horizontal y zona yuxtangular izquierdas. *A la derecha,* roentgenograma lateral izquierdo, menor nitidez, y reacción perióstica del maxilar inferior, rama horizontal y zona yuxtangular izquierdas.

extirpación metódica de los nódulos cutáneos. Tres días después exéresis amplia del tumor submaxilar, que se encuentra adherido al borde inferior del maxilar inferior en un limitado trecho cercano al ángulo y extirpación conjunta de la glándula submaxilar correspondiente, por encontrarse en parte invadida por el proceso neoplásico. Cuatro días después, destrucción diatérmica profunda y extensa de la mancha pigmentosa palpebral inferior y de algunas de las manchitas pigmentosas diseminadas en el tegumento.

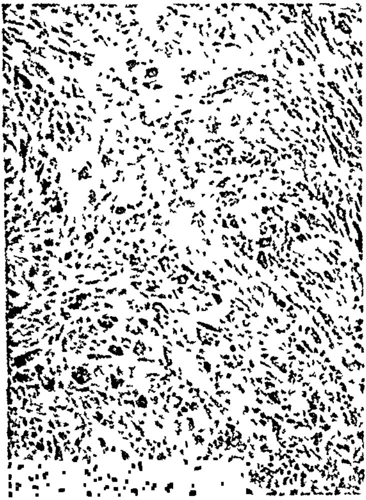


Fig. 8. Microfotografía: aspecto del tumor a pequeño aumento.

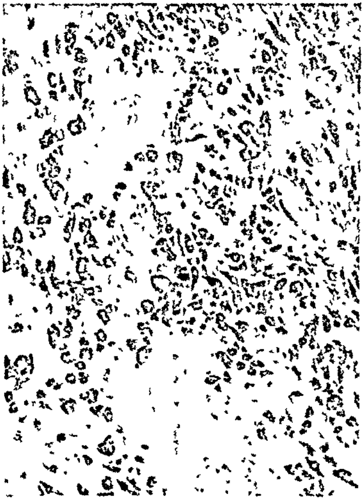


Fig. 9. Microfotografía, porción de un corte, polimorfismo celular y células cargadas de pigmento melánico.

Se solicita al doctor Ignacio González Guzmán el examen anatomopatológico de los nódulos y el tumor extirpados, todos consistentes y macroscópicamente de aspecto carbonoso. Fijación en formalina al 10 por ciento. Cortes por congelación en secciones delgadas, coloraciones hematoxilina eritrosina naranja y carbonato de plata amoniacal de del Río Hortega. Resultados e interpretación: la gruesa porción, nódulos y nodulitos presentan todos la misma textura, estando constituídos por un conjunto polimorfo de elementos celulares de estirpe conjuntiva, muchos de los cuales están cargados de pigmento melánico; los caracteres generales tumorales así como los especiales celulares, núcleos con pocas monstruosidades, con riqueza nucleolar no muy grande, con pocas mitosis, etc., permiten suponer dentro de la gran malignidad de los neoplasmas melánicos, que este melanoblastoma presenta una gravedad menos considerable que la de otros blastomas conjuntivos melánicos y sobre todo epiteliales pigmentógenos.

Ilustración microfotográfica del examen anatomopatológico: la figura 8 es un aspecto del tumor a pequeño aumento, en el que pueden apreciarse el polimorfismo celular y gruesas células cargadas de pigmento melánico; la figura 9 presenta la porción de un corte, en el que se observan numerosas células cargadas de pigmento melánico; la figura 10

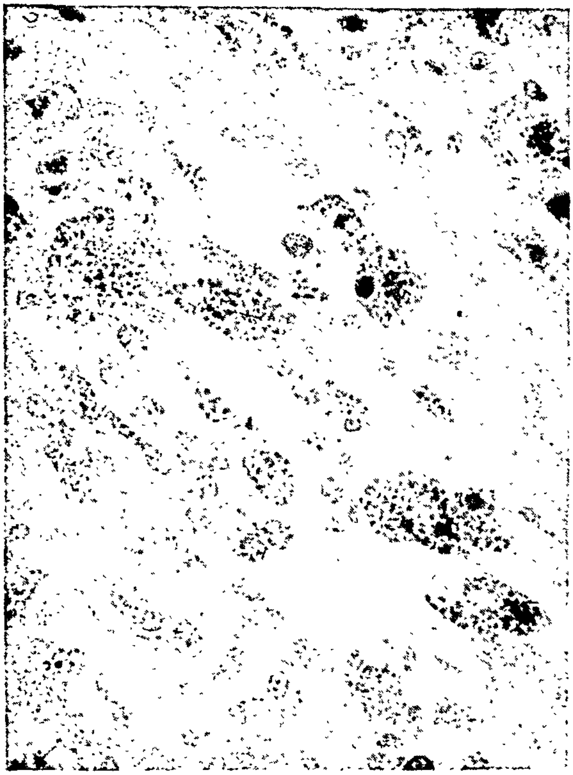


Fig. 10. Microfotografía a grande aumento, células neoplásicas con gruesos granos de pigmento melánico.

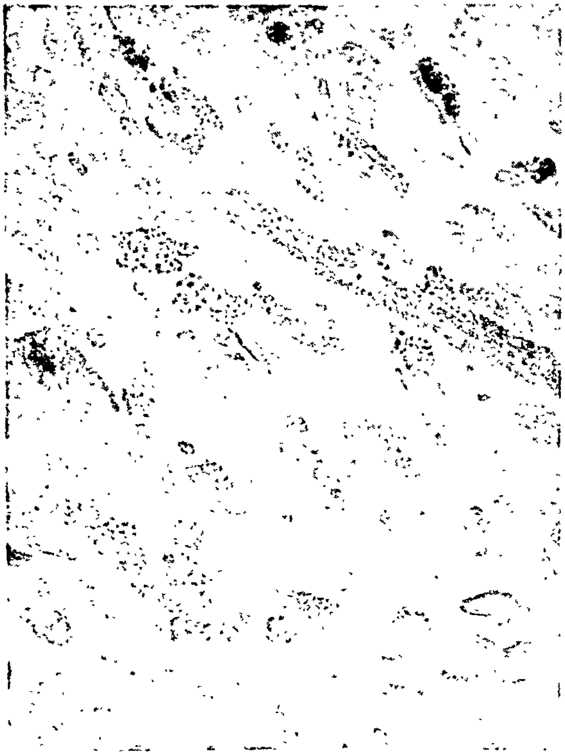


Fig. 11. Microfotografía a grande aumento, gruesos granos de pigmento melánico en las células neoplásicas.

muestra un campo microscópico a gran aumento, en el que pueden verse en las células neoplásicas gruesos granos de pigmento melánico; la figura 11 exhibe un aspecto semejante al de la figura anterior; y la figura 12 muestra campo microscópico en el que son particularmente abundantes las células neoplásicas repletas de pigmento melánico.

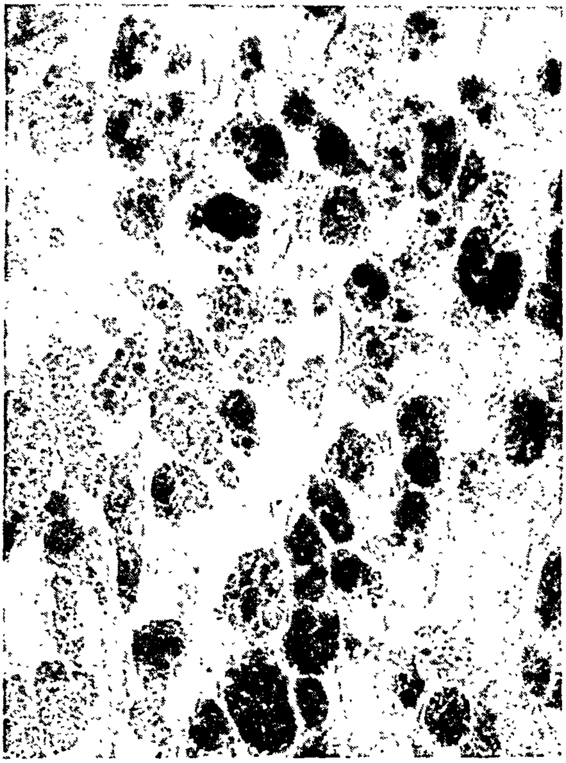


Fig. 12. Microfotografía a grande aumento, abundantes células neoplásicas repletas de pigmento melánico.

La evolución postoperatoria transcurre dentro de características normales y el operado abandona el hospital a las cuatro semanas de la primera intervención quirúrgica. Inmediatamente antes de hacerlo se repiten algunos exámenes de laboratorio, no encontrándose datos dignos de mencionarse excepto modificaciones discretas en la citología hemática, a saber: 4,000,000 eritrocitos, 80 por ciento de hemoglobina, 1.00 de valor globular, anisocitosis muy ligera persistente, 66.50 de índice neutrófilo de Arneth (desviación a la izquierda). Se le indica la conveniencia de irradiación post-operatoria, teniendo en cuenta los resultados obtenidos anteriormente con la misma. Poco tiempo despues se ausentó de Mexico y a continuacion carezco de sus noticias; mas tarde obtengo informacion de haber ocurrido su fallecimiento en Europa seis meses aproximadamente despues de haber sido operado, sin conseguir dato alguno circunstanciado.

COMENTARIOS

Este caso de melanoblastoma, neoplasma muy raro y de los mas malignos, ofrece en mi concepto marcado interes en diversos aspectos.

Si en relacion con la entidad nosologica se hacen consideraciones etiopatogénicas y de orden clinico evolutivo en conexion estrecha, no podria descartarse la influencia ya mencionada de la cronicidad traumatica actinica o la accion irritativa solar de mediana altitud, determinando la transformacion melanoblastomatosa del nevo pigmentoso palpebral hasta entonces benigno, podria tambien pensarse en la posible preexistencia de melanosis precancerosa, quiescente en el nevo congenito durante años y convertida subitamente en maligna por la acción sistematica del traumatismo apuntado, entre otros posibles factores causales ignorados.

Asumido el caracter neoplasico maligno, la evolucion clinica presentase dentro del ritmo y caracteristicas inherentes melanoblastoma palpebral, linfoadenometastasis, difusion blastomatosa de tendencia invasora; sin embargo, la difusion metastasica se manifiesta con ostensible e inusitado dermofilotropismo pues sin una positiva invasión organica demostrable ocurren metástasis cutáneas, en mas grande proporción del lado izquierdo y predominio toraxico mayor, como si se tratara de una verdadera sistematización en la orientación metastásica melanoblastomatosa.

El cuadro y la evolucion clinica resultan en apariencia paradogicos y espectaculares, al confrontarlos con la interpretacion de la imagen anatomopatologica, malignidad clinicamente ostensible, real o evolutiva, en contraste con la informacion histopatológica, los primeros estan en concordancia con lo aceptado universalmente en tratandose de melanoblastomas, aparte el dermofilotropismo metastasico sistematizado que es excepcional en el blastoma melanico de estirpe conjuntiva, mientras los resultados e interpretacion del examen anatomopatologico consignan que el caso presenta gravedad menos considerable que la de otros blastomas conjuntivos melanicos y sobre todo epiteliales.

La terapeutica quirurgica instituida, mejor dicho la terapeutica electroquirurgica llevada a cabo, fue inspirada en el desarrollo de la evolucion clínica y los datos suministrados por la misma, no obstante el conocimiento desconsolador que hacen patente las estadisticas correspondientes, Adair, en dos grupos estadisticos de casos primitivos y operables del Memorial Hospital de Nueva York, señala supervivencia de 5 años en el 33 por ciento y el 14.5 por ciento respectivamente,[28] cifras significativas de los desalentadores resultados terapéuticos. Mas a pesar de esto, dada la gran malignidad de los melanoblastomas, creo que la conducta quirurgica debe prevalecer e intentarse la terapeutica correspondiente, cada vez que existan condiciones de accesibilidad y alguna posibilidad de obtener siquiera resultados paliativos, contingentes o transitorios, aun cuando las probabilidades de consecucion se encuentren mas o menos comprometidas, pues hay que tener presente que el mín [illegible] fisico o moral puede prolo [illegible] cierto punto la vida [illegible]

RESUMEN

Se presenta un caso de melanoblastoma, blastoma melánico de estirpe conjuntiva, neoplasma muy raro y de los más malignos, cuyo interés aumenta por el carácter observado de una verdadera sistematización dermofilotrópica en la orientación metastásica del neoplasma, ocurrencia poco frecuente y mucho menos tratándose de melanoblastoma. Se hacen consideraciones patológicas y clínicas sobre los melanoblastomas, orígen, rareza, evolución y gran malignidad. Se comenta el caso en cuestión, sustentando su marcado interés en diversos aspectos: el proceso etiopatogénico, la sistematización metastásica neoplásica, la divergencia entre los caracteres clínicos y la información anatomopatológica respecto a la malignidad y la terapéutica quirúrgica.

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Melanoblastomas

Consideraciones a Proposito de Trece Neoplasias Melanicas

CONRADO ZUCKERMANN M D
MÉXICO D F MÉXICO

PRELIMINAR

A PARTIR de los estudios clásicos de Virchow, los tumores melánicos han preocupado tanto a los clínicos como a los investigadores a los primeros por su elevada malignidad e incurabilidad habitual, y a los segundos por sus peculiares características que los hacen distintos, por varios hechos, de los otros blastomas

CONDICIONES ETIOLOGICAS

Es de señalarse que los cánceres melanicos se observan en los animales y que en el caballo, en donde han sido estudiados con cierto detenimiento, ha llamado la atencion que primero se afirmó su mayor frecuencia en el de color blanco y últimamente se asienta que lo es en los de tinte obscuro

En el hombre se ha observado, en los Estados Unidos, un hecho estadístico comparable mientras que clínicamente se presentan con mayor frecuencia en personas de raza blanca, se anota igual o mayor numero en personas de raza negra por medio de datos autopsicos y anatomopatológicos

Se observa alguna mayor frecuencia en el sexo masculino, sobre todo en la edad adulta, es excepcional en el recien nacido (caso de Darier, caso de Weber) y raro en los primeros años de la vida

ORIGEN DE LAS NEOPLASIAS MELANICAS

Los cánceres melanicos se clasifican, en la mayoria de los tratados de anatomia patológica, en dos categorias, los epiteliales y los conjuntivos, señalandose con menos rareza los epiteliales

En los estudios histologicos parece observarse que tanto las celulas epiteliales como las conjuntivas pueden contener granos de melanina y dar origen a cánceres, que constituirian, entonces, melanoblastomas epiteliales y melanoblastomas conjuntivos* Desde hace diez años, sin embargo, los investigadores han observado algunos hechos que hacen pensar que el origen real de los tumores melánicos no es epitelial o conjuntivo sino nervioso, a partir de celulas de las terminaciones nerviosas perifericas y de los corpusculos sensitivos este criterio, sostenido por Masson y otros, lo hemos encontrado muy defendido en el reciente "Tratado de Anatomía Patológica" de Allan Moore, pareceria que los melanoblastomas serian tumores de origen ectodermico nervioso que podrían presentarse en casi toda la economia, notandose, sin embargo, mayormente en el tegumento cutaneo

Las celulas formadoras de melanina,

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* Es interesante señalar que mientras la mayoría de los autores señalan mucha mayor proporción de cánceres melánicos epiteliales que de conjuntivos Ramon y Cajal y Tello y Nuñez afirman que "el *melanosarcoma es el más frecuente" y que los mela*noepiteliomas 'son neoplasmas raros"—Ramirez Calderon del Instituto Anticanceroso de Buenos Aires señala también mayor proporción de los cánceres melánicos de estirpe conjuntiva Es también muy interesante anotar que iguales preparaciones histologicas son interpretadas por distintos anatomopatólogos con diferente criterio, pues mientras que alguno anota que el neoplasma es epitelial melánico otro afirma que es conjuntivo melánico señalando el gran parecido de las células **pigmento** formadoras principales del tumor con los

los melanocitos, serían células nerviosas, y las celdillas epiteliales o conjuntivas serían solo portadoras de granos de melanina.

CONSIDERCIONES HISTOLOGICAS

Someramente recordarémos que el plano cutáneo y varios de los mucosos están constituídos por epitelio poliestratificado, debajo del cual existe tejido conjuntivo-vascular y grasoso; como elementos en relación con el epitelio se encuentran glándulas anexas sudoríparas, sebaceas y los folículos pilosos, y como elementos en relación con el conjuntivo, células de origen sanguíneo, de naturaleza leucocitaria, que han emigrado a los espacios intercelulares; además de los elementos en relación con los tejidos epitelial y conjuntivo, se encuentran elementos endoteliales de los vasos linfáticos y sanguíneos, y las terminaciones nerviosas sensitivas y sus corpúsculos o placas terminales.

Normalmente se señala la existencia en la capa basal del epitelio, en las cercanías de los folículos pilosos y en las capas superficiales dérmicas, de celdillas cargadas de un pigmento negro llamado melanina; estas celdillas pigmentarias se encontrarían en mucho mayor proporción al nivel de las diversas clases de manchas pigmentarias, nevus en sus variadas formas, mancha mongólica, etc.

Se admite que en los nevus existe la mayor cantidad de estas celdillas pigmentarias en la capa basal de la epidermis y que en la mancha mongólica, la mancha azul y otras la mayor acumulación dé células con melanina se efectúa en el conjuntivo subepitelial.

De todo este conjunto de elementos pueden dimanar neoplasias y asi por ejemplo se encuentran en la piel los tumores de origen epitelial del epitelio estratificado o de sus glándulas anexas y las neoplasias de naturaleza conjuntiva, las originadas en los vasos sanguíneos, angiomas en sus diversas variedades y los originados en las terminaciones nerviosas, neuromas en sus diversas variedades.

En relación con las células pigmentarias se describen formaciones congénitas o adquiridas, con acumulación de células melánicas y otras alteraciones estructurales, sin llegar a constituir verdaderos tumores. Son sin embargo, alteraciones lesionales bastante características de las que se describen los nevus pigmentarios, nevus verrugosos, nevus moluscos, nevus papilomatosos, nevus angiomatosos, mancha azul, mancha mongólica,* etc.

Es de señalarse que se describe en la piel alteraciones también congénitas o adquiridas en las cuales, existiendo disposición semejante a la de los otors nevus no se observan las coloraciones habituales, la existencia de celdillas melánicas; son los nevus acrómicos o leuconevus en los cuales, sin embargo, se admite que sí existen celdillas de extirpe melánica solo reconocibles por procedimiento especial a que luego nos referirémos.

Las celdillas melánicas pueden dar origen a neoformaciones, a tumores de rápida evolución, de malignidad histológica y clínicamente comprobada, que serían los melanoblastomas. Es interesante señalar que estos tumores fueron considerados primeramente como neoformaciones epiteliales, después como conjuntivas, luega nuevamente como epiteliales y últimamente como neoformaciones derivadas de celdillas de extirpe nerviosa. (Masson sostien este origen desde 1926.)

Se afirma que las células formadora de la melanina son celdillas de orig ectodérmico en [illegible] aun [illegible] dad, con las cel[illegible] de las [illegible] ciones nerviosas [illegible] tivas [illegible] do ellas serían las [illegible] as e[illegible] para transformar [illegible] menet [illegible] incoloro (melanógeno) [illegible] sul[illegible] pigmentaria de color [illegible] Esta transformación se efectu[illegible] favor de una oxidasa que solo [illegible] en estas celdillas espec[illegible] a [illegible] se les ha denominado melanoblastos y también melanocitos. [illegible] dopa reacción es capaz de identificar la oxidasa necesaria para la formación de la melanina y por lo tanto particulariza a las células que la contienen. Los otros teñidos como el de la reducción con sales de plata, se pueden obtener tanto en las células que forman la melanina como en las que solamente la contienen por haber penetrado en ellas, por haberla absorbido o por haberla fagocitado, a estas células que algunos llaman células "tatuadas" se les atribuye sólo el estar cargadas de melanina pero el no poder formarla y serían ellas células epiteliales, conjuntivas, endoteliales, leucocitarias, etc.

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* Llamada asi porque se ha observado en niños raza mongólica, sobre todo en la región sacra.

Los verdaderos melanoblastomas serían, por lo tanto, los tumores formados a expensas de la transformación cancerosa de melanocitos a melanoblastos, y las células conjuntivas o epiteliales que en ellos se encuentran cargadas de melanina, serían solamente elementos añadidos y no el elemento característico.

Esta manera de pensar es la que en la actualidad parece corresponder a la realidad histológica pero no está universalmente admitida.

Por otra parte, es de señalarse que tumores claramente identificados como epiteliales o conjuntivos desarrollados en la piel o en otras estructuras, pueden contener células melanoformadoras, es decir, melanocitos o melanoblastos aun en mayor desarrollo que el normal y contener por lo tanto gran cantidad de pigmento melánico en el protoplasma de sus celdillas ya sean conjuntivas o epiteliales, serían neoplasias epiteliales o conjuntivas pigmentadas en que la melanización sería un fenómeno secundario en relación con la existencia normal de esas celdillas en medio de los tejidos que dieron origen real al tumor, a estos se les llama *neoplasias secundariamente pigmentadas*.* Es de señalarse, sin embargo, que tanto desde el punto de vista clínico como histológico, es difícil en muchos casos hacer la diferenciación entre un verdadero melanoma o melanoblastoma y un tumor epitelial o conjuntivo pigmentado. Es de tal manera difícil esta identificación que, aun en manos expertas y ante la imposibilidad de una mayor precisión se afirma haber encontrado en tumores melánicos doble estructura cancerosa, es decir, tanto epitelial como conjuntiva y aún se señala la existencia de celdillas cuya disposición, forma y situación hacen pensar que son de origen nervioso pero existiendo formas llamadas de paso entre unas celdillas y otras.

A pesar de todo lo antes anotado, creemos que desde el punto de vista clínico e histológico, habitualmente deben considerarse como melanoblastomas aquellos tumores en los cuales el elemento predominante son celdillas formadoras de melanina ya impregnadas de esta substancia o en las cuales se identifique la existencia de la oxidasa por la dopa reacción.

ASPECTO CLÍNICO

Los cánceres melánicos pueden presentarse como antes decía en casi todos los tejidos del organismo, pero en donde se han observado más es en la piel, en el ojo, sobre todo en la coroides, en las meninges, en el encéfalo, en los huesos, en las cápsulas suprarenales, etc.; debe tenerse en cuenta que me estoy refiriendo a los tumores melánicos primitivos pues las metástasis pueden presentarse en mucho mayor número de localizaciones.

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* Estos cánceres epiteliales o conjuntivos melanizados pigmentados pero en que el elemento dominante principal no es el celular melánico han sido estudiados por Masson Candiere Bloch, Ewing Fox Becker, Auger, etc.

Los trabajos de Adachi, Ramel, Redslob, Ehrmann, Laidean, Becker, Bloch, Leon Blanco, Abalo y otros investigadores demuestran la presencia de células melanoformadores en muy diversas partes del cuerpo y por lo tanto la posibilidad de formación de cánceres melánicos.

Un buen porcentaje de los cánceres melánicos, pudiéramos decir casi el 50 por ciento, se originan en lunares, nevus o manchas pigmentarias (mancha mongólica, etc.).

Los cánceres melánicos crecen en meses y raremente en años e invaden el organismo tanto por la vía linfática como por la sanguínea, dando origen a numerosas metástasis ganglionares linfáticas, cutáneas y subcutáneas, pulmonares, hepáticas, espléniças, encefálicas, etc., hasta constituir una verdadera diseminación de nódulos cancerosos melánicos en casi todo el cuerpo.

Los blastomas melánicos a pesar de ser neoplasias de temprana y rápida diseminación tienen tres etapas evolutivas: local, regional y general. En la fase local las células melánicas se encuentran en el tumor y en sus cercanías, de ahí la necesidad de hacer amplia y alejada extirpación en estos tumores aún cuando se presenten de pequeño tamaño. En la fase regional ocupan el sitio del tumor, las porciones cercanas, los vasos linfáticos correspondientes y los ganglios tributarios y en caso de operar es necesario extirpar todo. Esta intervención quirúrgica muy amplia se fundaría en que las metástasis sanguíneas y la generalización no siempre son inmediatas.

Nuestra primera observación de cáncer melánico la publicamos bajo el título de "melanosarcoma metastásico, ganglionar en la axila, de origen medular óseo", en la Revista Mexicana de Cirugía, Ginecología y Cáncer, de noviembre de 1933; de entonces a la fecha hemos observado otros doce casos más; todos los enfermos ya han fallecido.

De las 13 observaciones, en 6 hubo comprobación histológica y en 7 se trató de casos en los que el conjunto de datos clínicos afirmaba que se trataba de melanoblastomas pero en los cuales la biopsia y aún la intervención quirúrgica estaban completamente contraindicadas.

La biopsia es un procedimiento que nunca empleamos para estos tumores y cuando en 3 casos se efectuó extirpación de ganglios se hizo porque clínicamente no se afirmaba claramente que se trataba de melanoblastoma.

De las 13 observaciones, 2 correspondieron a melanoblastoma de los dedos de los pies, 1 a localización en la planta del pié, 1 a melanoblastoma submamario derecho, 1 a melanoblastoma de origen medular óseo en un dedo de la mano, 3 a melano-cánceres en la cara, 1 a cáncer melánico en la región de la nuca, 1 en lo cara lateral del cuello, y 2 en la piel de la cara antero-lateral del tórax, y 1 en el plano cutáneo de la cara posterior derecha del tórax.

Es un hecho interesante que uno de los melanoblastomas del dedo del pié se prestó a confusión con proceso gangrenoso de los dedos y que el diagnóstico fué difícil porque estar ausentes las oscilaciones arteriales. La cuidadosa observación de la lesión, la ausencia de dolores y la aparición de metástasis inguinales (que fué rápida) aclararon el diagnóstico.

En ocasiones el melanoblastoma primitivo es pequeño y sus metástasis adquieren en cambio gran tamaño

CANCERES MELANICOS ACROMICOS

Estamos acostumbrados a [illegible] términos a los melanoblastomas como cánceres negros, pero existen ya algún número de observaciones en las [illegible] blastomas de color gris y aun claros [illegible] identifican como cánceres melánicos por examen histológico minucioso, la dopa reacción efectuada a favor del teñido con un derivado de la pirocatequina llamado dioxifenilalanina permite identificar como células melánicas a celdillas que en coloraciones habituales no lo parecen

Chevallier y otros investigadores señalan un caso de cáncer melánico en el cual la existencia de poliadenopatía hizo pensar en un cáncer linfático por el hecho de tratarse de melanoblastoma acrómico, pero la cuidadosa investigación histológica permitió identificarlo como cáncer melánico amelanósico con metástasis linfáticas

Se señala que tumores primarios intensamente pigmentados pueden dar origen a metástasis libres de pigmento

TERAPEUTICA

Consideramos que los cánceres melánicos son los más malignos tanto desde el punto de vista histológico como clínico y que su terapéutica constituye un gran problema, en este cáncer como en muchos otros, lo mejor es prevenir por medio de (*a*) evitar irritar o traumatizar los nevus y otras alteraciones cutáneas y (*b*) la destrucción eléctrica amplia de los lunares, nevos y manchas pigmentarias, lo que permitiría evitar la aparición en ellos de cánceres melánicos

La destrucción diatérmica o la extirpación con bisturí eléctrico de los nevus debe hacerse muy afuera de la lesión por la posibilidad de que existan células névicas algo alejadas del nevus visible

Constituido ya el melanoblastoma, si el cuidadoso examen clínico y radiológico y aun biopsia ganglionar hacen pensar que todavía no existen metástasis, está indicado hacer amplia extirpación quirúrgica con cuchillo eléctrico y la resección de las vías linfáticas y el vaciamiento ganglionar correspondiente En los miembros estaría indicada la amputación alejada del tumor *

La única posibilidad de curación en los enfermos con melanoblastoma es el diagnóstico precoz, cuando todavía está en la demasiado pasajera fase local y la inmediata, amplia y completa extirpación quirúrgica

Cuando ya existen metástasis alejadas y sobre todo generalización, toda terapéutica es inútil

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Travel reservations for those desiring to attend the Fifth International Assembly of the International College of Surgeons, to be held in Lima, Peru, on March 24, 25, 26 and 27, 1946, should be made *as soon as possible.* (See announcement on inside front cover.)

NATIONAL GASTROENTEROLOGICAL ASSOCIATION 1946 AWARD CONTEST

The National Gastroenterological Association announces the establishment of an Annual Cash Prize Award of $100 and a Certificate of Merit for the best unpublished contribution on Gastroenterology or allied subjects. Certificates will also be awarded those physicians whose contributions are deemed worthy.

Contestants residing in the United States must be members of the American Medical Association. Those residing in foreign countries must be members of a similar organization in their own country. The winning contribution will be selected by a board of impartial judges and the award is to be made at the Annual Convention Banquet of the National Gastroenterological Association to be held at the Hotel Pennsylvania in New York City on Thursday evening, June 20, 1946.

Certificates awarded to other physicians will be mailed to them. The decision of the judges will be final. The Association reserves the exclusive right of first publishing the winning contribution, and those receiving certificates of merit, in its Official Publication, THE REVIEW OF GASTROENTEROLOGY. All entries for the 1946 prize should be limited to 5,000 words, be typewritten in English, prepared in manuscript form, submitted in five copies, accompanied by an entry letter, and must be received not later than May 1, 1946. Entries should be addressed to the National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

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